# NUCLEAR REGULATORY COMMISSION ISSUANCES

## OPINIONS AND DECISIONS OF THE NUCLEAR REGULATORY COMMISSION WITH SELECTED ORDERS

January 1, 1976 – June 30, 1976

Volume 3

Prepared by the Division of Rules and Records, Office of Administration,
U. S. Nuclear Regulatory Commission, Washington, D. C. 20555
(301/492-7211)

For sale by the Superintendent of Documents, U. S. Government Printing Office
Washington, D. C. 20402 - Price: $14.50
S/N 052-010-00494-8

## COMMISSIONERS

William A. Anders, Chairman*
Marcus A. Rowden, Chairman*
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

---

Lee V. Gossick, Executive Director for Operations
Peter L. Strauss, General Counsel
Howard K. Shapar, Executive Legal Directors

---

Alan S. Rosenthal, Chairman, Atomic Safety & Licensing Appeal Panel
James R. Yore, Acting Chairman, Atomic Safety & Licensing Board Panel

*On April 21, 1976, NRC Chairman William A. Anders took the oath of office as Ambassador to Norway, and simultaneously—in accordance with his March 18 announcement—President Ford designated Commissioner Marcus A. Rowden as new Chairman of the NRC.

## ATOMIC SAFETY AND LICENSING APPEAL PANEL

Alan S. Rosenthal, Chairman
Dr. John H. Buck, Vice Chairman

### Members

Dr. Lawrence R. Quarles
Michael C. Farrar
Richard S. Salzman
Dr. W. Reed Johnson
Jerome E. Sharfman

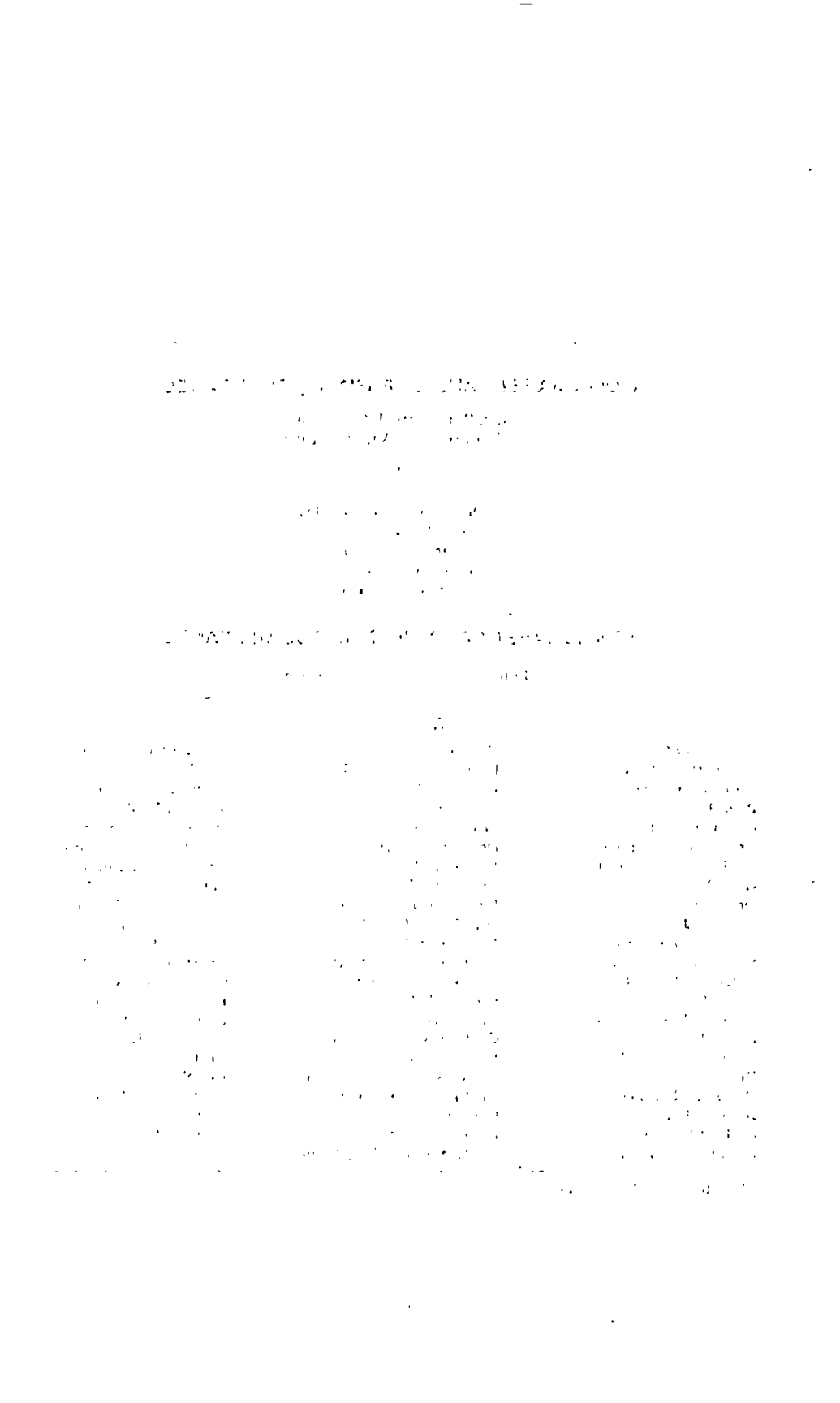
## ATOMIC SAFETY AND LICENSING BOARD PANEL

James R. Yore, Acting Chairman

### Members

Dr. George C. Anderson
Elizabeth S. Bowers*
John H. Brebbia
R. B. Briggs
Glenn O. Bright*
Dr. A. Dixon Callihan
Dr. E. Leonard Cheatum
Hugh K. Clark
Dr. Richard F. Cole*
Frederic J. Coufal*
Dr. Frederick P. Cowan
Dr. Franklin C. Daiber
Valentine B. Deale
Ralph S. Decker
Dr. Donald P. de Sylva
Michael A. Duggan
Dr. Kenneth G. Elzinga
Dr. Geroge A. Ferguson
Dr. Harry Foreman
John M. Frysiak*
Michael L. Glaser
Andrew C. Goodhope
Dr. David B. Hall
Dr. Cadet H. Hand, Jr.
Daniel M. Head*
Dr. David L. Hetrick
Ernest E. Hill
Dr. Robert L. Holton
Dr. Frank F. Hooper
Samuel W. Jensch*
Elizabeth B. Johnson
Dr. Walter H. Jordan
Lester Kornblith, Jr.*
Dr. James C. Lamb III
Margaret M. Laurence
Robert M. Lazo*
Dr. J. Venn Leeds, Jr.
Gustave A. Linenberger*
Dr. Linda W. Little
Dr. M. Stanley Livingston
Dr. Emmeth A. Luebke*
Edward Luton*
Dr. John R. Lyman
Dr. Kenneth A. McCollom
Dr. Marvin M. Mann*
Dr. William E. Martin
Gary L. Milhollin
Marshall E. Miller*
Dr. Hugh C. Paxton
Dr. Thomas H. Pigford
Dr. Paul W. Purdom
Thomas W. Reilly*
Dr. Forrest J. Remick
Douglas Rigler
Dr. Ernest O. Salo
Dr. David R. Schink
Carl W. Schwartz
Frederick J. Shon*
Ivan W. Smith*
Dr. Martin J. Steindler
Dr. Quentin J. Stober
Joseph F. Tubridy
Dr. Leonard W. Weiss
John F. Wolf
Sheldon J. Wolfe*

*Full-time panel members.



# PREFACE

This is the third volume of issuances of the Nuclear Regulatory Commission and its Atomic Safety and Licensing Appeal Boards and Atomic Safety and Licensing Boards. It covers the period from January 1, 1976, to June 30, 1976.

Atomic Safety and Licensing Boards are authorized by Section 191 of the Atomic Energy Act of 1954. These Boards, comprised of three members conduct adjudicatory hearings on applications to construct and operate nuclear power plants and related facilities and issue initial decisions which, subject to internal review and appellate procedures, become the final Commission action with respect to those applications. Boards are drawn from the Atomic Safety and Licensing Board Panel, comprised of lawyers, nuclear physicists and engineers, environmentalists, chemists, and economists. The Atomic Energy Commission first established Licensing Boards in 1962 and the Panel in 1967.

Beginning in 1969, the Atomic Energy Commission authorized Atomic Safety and Licensing Appeal Boards to exercise the authority and perform the review functions which would otherwise have been exercised and performed by the Commission in facility licensing proceedings. In 1972, that Commission created an Appeal Panel, from which are drawn the Appeal Boards assigned to each licensing proceeding. The functions performed by both Appeal Boards and Licensing Boards were transferred to the Nuclear Regulatory Commission by the Energy Reorganization Act of 1974. Appeal Boards represent the final level in the administrative adjuicatory process to which parties may appeal. The Commission may, however, on its own motion, review various decisions or actions of Appeal Boards.

This volume is made up of reprinted pages from the six monthly issues of the Nuclear Regulatory Commission publication *Nuclear Regulatory Commission Issuances (NRCI),* for this time period, arranged in chronological order. Cross references in the text and indexes are to the NRCI page numbers which are the same as the page numbers in this publication.

Issuances are referred to as follows: Commission--CLI, Atomic Safety and Licensing Appeal Boards--ALAB, and Atomic Safety and Licensing Boards--LBP.

The summaries and headnotes preceding the opinions reported herein are not to be deemed a part of those opinions or to have any independent legal significance.

# CONTENTS

## Issuances of the Nuclear Regulatory Commission


CONSUMERS POWER COMPANY
(Big Rock Point Nuclear Power Station), Docket 50-155
Memorandum and Order, CLI-76-8, May 26, 1976 . . . . . 598
EDLOW INTERNATIONAL COMPANY
(Agent for the Government of India on Application to Export Special Nuclear Material), Docket 70-2071 (License XSNM-805) and Docket 70-2131 (License XSNM-845)
Order, CLI-76-4, March 17, 1976 . . . . . 159
Order, CLI-76-5, March 25, 1976 . . . . . 161
Opinion, CLI-76-6, May 7, 1976 . . . . . 563
Order, CLI-76-7, May 21, 1976 . . . . . 594
NATURAL RESOURCES DEFENSE COUNCIL
Memorandum and Order, CLI-76-2, February 12, 1976 . . . . . 76
PACIFIC GAS AND ELECTRIC COMPANY
(Diablo Canyon Nuclear Power Plant, Units 1 and 2), Dockets 50-275 O.L. and 50-323 O.L.
Memorandum and Order, CLI-76-1, February 5, 1976 . . . . . 73
PHILADELPHIA ELECTRIC COMPANY, et al.
(Peach Bottom Atomic Power Station, Units 2 and 3), Dockets 50-277 and 50-278
Order, CLI-76-3, February 25, 1976 . . . . . 82
WESTINGHOUSE ELECTRIC CORPORATION
(Application for the Export of Pressurized Water Reactor to Asociacion Nuclear ASCO II, Barcelona, Spain), Docket 50-474 (License XR-99)
Decision, CLI-76-9, June 21, 1976 . . . . . 739


## Issuances of the Atomic Safety and Licensing Appeal Boards


ALLIED CHEMICAL NUCLEAR PRODUCTS, INC., et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Decision, ALAB-328, April 28, 1976 . . . . . 420
ALLIED-GENERAL NUCLEAR SERVICES, et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Decision, ALAB-328, April 28, 1976 . . . . . 420
CINCINNATI GAS AND ELECTRIC COMPANY, et al.
(William H. Zimmer Nuclear Power Station), Docket 50-358
Decision, ALAB-305, January 7, 1976 . . . . . 8

CLEVELAND ELECTRIC ILLUMINATING COMPANY, et al.
(Davis-Besse Nuclear Power Station, Units 1, 2, and 3), Dockets 50-346A, 50-500A, and 50-501A
Decision, ALAB-332, June 11, 1976 . . . . . 785
(Davis-Besse Nuclear Power Station, Unit 1), Docket 50-346A
Memorandum and Order, ALAB-314, February 26, 1976 . . . . . 98
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440A and 50-441A
Memorandum and Order, ALAB-314, February 26, 1976 . . . . . 98
Decision, ALAB-332, June 11, 1976 . . . . . 785
COMMONWEALTH EDISON COMPANY
(Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2), Dockets STN 50-454, STN 50-455, STN 50-456, and STN 50-457
Decision, ALAB-312, February 5, 1976 . . . . . 91
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
(Indian Point Station, Units 1, 2, and 3), Dockets 50-3, 50-247, and 50-286
Decision, ALAB-304, January 6, 1976 . . . . . 1
Memorandum and Order, ALAB-319, March 16, 1976 . . . . . 188
CONSUMERS POWER COMPANY
(Midland Plant, Units 1 and 2), Construction Permits 81 and 82 (Show Cause)
Opinion on Reconsideration, ALAB-315, February 27, 1976 . . . . . 101
DUQUESNE LIGHT COMPANY, et al.
(Beaver Valley Power Station, Unit 1), Docket 50-334
Order, ALAB-310, January 23, 1976 . . . . . 33
FLORIDA POWER AND LIGHT COMPANY
(St. Lucie Nuclear Power Plant, Unit 2), Docket 50-389
Decision, ALAB-335, June 29, 1976 . . . . . 830
GENERAL ATOMIC COMPANY, et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Decision, ALAB-328, April 28, 1976 . . . . . 420
GULF STATES UTILITIES COMPANY
(River Bend Station, Units 1 and 2), Dockets 50-458 and 50-459
Memorandum and Order, ALAB-317, March 4, 1976 . . . . . 175
Memorandum and Order, ALAB-329, May 10, 1976 . . . . . 607

HOUSTON LIGHTING AND POWER COMPANY, et al.
(South Texas Project, Units 1 and 2), Dockets STN 50-498 and STN 50-499
Decision, ALAB-306, January 14, 1976 . . . . . 14
KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY
(Wolf Creek Nuclear Generating Station, Unit 1), Docket STN 50-482
Memorandum and Order, ALAB-307, January 20, 1976 . . . . . 17
Memorandum and Order, ALAB-311, February 3, 1976 . . . . . 85
Decision, ALAB-321, April 7, 1976 . . . . . 293
Decision, ALAB-327, April 27, 1976 . . . . . 408
Decision, ALAB-331, June 8, 1976 . . . . . 771
LONG ISLAND LIGHTING COMPANY
(Jamesport Nuclear Power Station, Units 1 and 2), Dockets 50-516 and 50-517
Memorandum and Order, ALAB-318, March 16, 1976 . . . . . 186
PACIFIC GAS AND ELECTRIC COMPANY
(Diablo Canyon Nuclear Power Plant, Units 1 and 2), Dockets 50-275 O.L. and 50-323 O.L.
Order, ALAB-320, March 18, 1976 . . . . . 196
Decision, ALAB-334, June 22, 1976 . . . . . 809
PORTLAND GENERAL ELECTRIC COMPANY, et al.
(Pebble Springs Nuclear Plant, Units 1 and 2), Dockets 50-514 and 50-515
Memorandum and Certification to Commission, ALAB-333, June 22, 1976 . . . . . 804
PROJECT MANAGEMENT CORPORATION, et al.
(Clinch River Breeder Reactor Plant), Docket 50-537
Memorandum and Order, ALAB-326, April 19, 1976 . . . . . 406
Memorandum and Order, ALAB-330, May 12, 1976 . . . . . 613
PUBLIC SERVICE COMPANY OF INDIANA, INC.
(Marble Hill Nuclear Generating Station, Units 1 and 2), Dockets STN 50-546 and STN 50-547
Decision, ALAB-316, March 3, 1976 . . . . . 167
Decision, ALAB-322, April 14, 1976 . . . . . 328
PUERTO RICO WATER RESOURCES AUTHORITY
(North Coast Nuclear Plant, Unit 1), Docket 50-376
Memorandum and Order, ALAB-313, February 24, 1976 . . . . . 94

SOUTHERN CALIFORNIA EDISON COMPANY, et al.
(San Onofre Nuclear Generating Station, Units 2 and 3), Dockets 50-361 and 50-362
Memorandum and Order, ALAB-308, January 22, 1976 . . . . . 20
TENNESSEE VALLEY AUTHORITY, et al.
(Clinch River Breeder Reactor Plant), Docket 50-537
Memorandum and Order, ALAB-326, April 19, 1976 . . . . . 406
Memorandum and Order, ALAB-330, May 12, 1976 . . . . . 613
TOLEDO EDISON COMPANY, et al.
(Davis-Besse Nuclear Power Station, Units 1, 2, and 3), Dockets 50-346A, 50-500A, and 50-501A
Decision, ALAB-332, June 11, 1976 . . . . . 785
(Davis-Besse Nuclear Power Station, Unit 1), Docket 50-346A
Memorandum and Order, ALAB-314, February 26, 1976 . . . . . 98
Decision, ALAB-323, April 14, 1976 . . . . . 331
(Davis-Besse Nuclear Power Station, Units 2 and 3), Dockets 50-500A and 50-501A
Memorandum and Order, ALAB-314, February 26, 1976 . . . . . 98
VIRGINIA ELECTRIC AND POWER COMPANY
(North Anna Power Station, Units 1 and 2), Construction Permits CPPR-77 and CPPR-78
Decision, ALAB-324, April 15, 1976 . . . . . 347
(North Anna Power Station, Units 1 and 2), Dockets 50-338 and 50-339
Decision, ALAB-325, April 16, 1976 . . . . . 404
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
(WPPSS Nuclear Project Nos. 1 and 4), Dockets STN 50-460 and STN 50-513
Decision, ALAB-309, January 23, 1976 . . . . . 31

Issuances of the Atomic Safety and Licensing Boards

ALLIED CHEMICAL NUCLEAR PRODUCTS, INC., et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Memorandum and Order, LBP-76-12, March 25, 1976 . . . . . 277
Memorandum and Order Relative to Admissibility of Proposed Contentions, LBP-76-24, May 28, 1976 . . . . . 725

ALLIED-GENERAL NUCLEAR SERVICES, et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Memorandum and Order, LBP-76-12, March 25, 1976 . . . . . 277
Memorandum and Order, LBP-76-22, May 27, 1976 . . . . . 706
Memorandum and Order Relative to Admissibility of Proposed Contentions, LBP-76-24, May 28, 1976 . . . . . 725
ARIZONA PUBLIC SERVICE COMPANY, et al.
(Palo Verde Nuclear Generating Station, Units 1, 2, and 3), Dockets STN 50-528, STN 50-529, and STN 50-530
Initial Decision (Construction Permit), LBP-76-21, May 24, 1976 . . . . . 662
BOSTON EDISON COMPANY, et al.
(Pilgrim Nuclear Generating Station, Unit 2), Docket 50-471
Order, LBP-76-7, February 20, 1976 . . . . . 156
CLEVELAND ELECTRIC ILLUMINATING COMPANY, et al.
(Davis-Besse Nuclear Power Station, Units 1, 2, and 3), Dockets 50-346A, 50-500A, and 50-501A
Memorandum and Order of the Board on Applicants' Motion for Determination That Davis-Besse Unit 1 is "Grandfathered" for Purposes of Operation, LBP-76-2, January 7, 1976 . . . . . 39
Memorandum and Order of the Board With Respect to Applicants' Request for Certain Procedural Rulings, LBP-76-5, February 9, 1976 . . . . . 127
Memorandum of the Board Relating to Motion to Compel Production of Civil Investigative Demand Documents, LBP-76-8, March 1, 1976 . . . . . 199
Order Certifying Ruling in Special Section 2.713 Proceeding, LBP-76-11, March 19, 1976 . . . . . 223
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440A and 50-441A
Memorandum and Order of the Board on Applicants' Motion for Determination That Davis-Besse Unit 1 is "Grandfathered" for Purposes of Operation, LBP-76-2, January 7, 1976 . . . . . 39
Memorandum and Order of the Board With Respect to Applicants' Request for Certain Procedural Rulings, LBP-76-5, February 9, 1976 . . . . . 127

Memorandum of the Board Relating to Motion to Compel Production of Civil Investigative Demand Documents, LBP-76-8, March 1, 1976 . . . . . 199
Order Certifying Ruling in Special Section 2.713 Proceeding, LBP-76-11, March 19, 1976 . . . . . 223
Supplemental Partial Initial Decision (Authorizing Issuance of a Limited Work Authorization Amendment), LBP-76-17, May 10, 1976 . . . . . 621
DUKE POWER COMPANY
(Cherokee Nuclear Station, Units 1, 2, and 3), Dockets 50-491, 50-492, and 50-493
Partial Initial Decision as to Environmental and Site Suitability Issues, LBP-76-18, May 21, 1976 . . . . . 627
DUQUESNE LIGHT COMPANY, et al.
(Beaver Valley Power Station, Unit 1), Docket 50-334
Initial Decision Authorizing Low Power Testing, LBP-76-3, January 22, 1976 . . . . . 44
Supplemental Initial Decision Authorizing Interim Operation at Power Levels Up to 35% of Full Power (Operating License), LBP-76-23, May 28, 1976 . . . . . 711
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440 and 50-441
Supplemental Partial Initial Decision (Authorizing Issuance of a Limited Work Authorization Amendment), LBP-76-17, May 10, 1976 . . . . . 621
GENERAL ATOMIC COMPANY, et al.
(Barnwell Fuel Receiving and Storage Station), Docket 70-1729
Memorandum and Order, LBP-76-12, March 25, 1976 . . . . . 277
Memorandum and Order Relative to Admissibility of Proposed Contentions, LBP-76-24, May 28, 1976 . . . . . 725
ILLINOIS POWER COMPANY
(Clinton Power Station, Units 1 and 2), Dockets 50-461 and 50-462
Initial Decision (Construction Permit), LBP-76-6, February 20, 1976 . . . . . 135
KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY
(Wolf Creek Generating Station, Unit 1), Docket STN 50-482

Order Authorizing Construction of Plant Access Road and Relocation of FAS Route 10, and Denying Authorization for Construction of Railroad Spur, LBP-76-19, May 18, 1976 . . . . . 652
OHIO EDISON COMPANY, et al.
(Beaver Valley Power Station, Unit 1), Docket 50-334
Initial Decision Authorizing Low Power Testing, LBP-76-3, January 22, 1976 . . . . . 44
Supplemental Initial Decision Authorizing Interim Operation at Power Levels Up to 35% of Full Power (Operating License), LBP-76-23, May 28, 1976 . . . . . 711
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440 and 50-440 and 50-441
Supplemental Partial Initial Decision (Authorizing Issuance of a Limited Work Authorization Amendment), LBP-76-17, May 10, 1976 . . . . . 621
PENNSYLVANIA POWER COMPANY, et al.
(Beaver Valley Power Station, Unit 1), Docket 50-334
Initial Decision Authorizing Low Power Testing, LBP-76-3, January 22, 1976 . . . . . 44
Supplemental Initial Decision Authorizing Interim Operation at Power Levels Up to 35% of Full Power (Operating License), LBP-76-23, May 28, 1976 . . . . . 711
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440 and 50-441
Supplemental Partial Initial Decision (Authorizing Issuance of a Limited Work Authorization Amendment), LBP-76-17, May 10, 1976 . . . . . 621
POTOMAC ELECTRIC POWER COMPANY
(Douglas Point Nuclear Generating Station, Units 1 and 2), Dockets 50-448 and 50-449
Order Relative to Intervenor Wojciechowicz's Motions of October 14, 1975, and Applicant's Motion for Summary Disposition Filed October 22, 1975, LBP-76-9, March 8, 1976 . . . . . 205
Order Relative to a Prehearing Conference and Evidentiary Hearing, LBP-76-13, April 1, 1976 . . . . . 425
POWER AUTHORITY OF THE STATE OF NEW YORK
(Greene County Nuclear Power Plant), Docket 50-549A
Memorandum and Order, LBP-76-20, May 20, 1976 . . . . . 657

PROJECT MANAGEMENT CORPORATION, et al.
(Clinch River Breeder Reactor Plant), Docket 50-537
Special Prehearing Conference Memorandum and Order, LBP-76-14, April 6, 1976 . . . . . 430
PUBLIC SERVICE COMPANY OF INDIANA
(Marble Hill Nuclear Generating Plant, Units 1 and 2), Dockets 50-546A and 50-547A
Memorandum and Order, LBP-76-25, June 15, 1976 . . . . . 847
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al.
(Seabrook Station, Units 1 and 2), Dockets 50-443 and 50-444
Memorandum and Order Denying Reconsideration of Denial of Motion for Mistrial, LBP-76-4, February 4, 1976 . . . . . 123
Initial Decision (Construction Permit), LBP-76-26, June 29, 1976 . . . . . 857
Memorandum and Order Denying Intervenors Seacoast Anti-Pollution League and Audubon Society Motion to Stay Decision, LBP-76-27, June 29, 1976 . . . . . 950
TENNESSEE VALLEY AUTHORITY
(Browns Ferry Nuclear Plant, Units 1 and 2), Dockets 50-259 and 50-260
Ruling on Petition to Intervene, LBP-76-10, March 11, 1976 . . . . . 209
(Hartsville Nuclear Plant, Units 1A, 1B, 2A, and 2B), Dockets STN 50-518, STN 50-519, STN 50-520, and STN 50-521
Partial Initial Decision, LBP-76-16, April 20, 1976 . . . . . 485
TENNESSEE VALLEY AUTHORITY, et al.
(Clinch River Breeder Reactor Plant), Docket 50-537
Special Prehearing Conference Memorandum and Order, LBP-76-14, April 6, 1976 . . . . . 430
TOLEDO EDISON COMPANY, et al.
(Davis-Besse Nuclear Power Station, Units 1, 2, and 3), Dockets 50-346A, 50-500A, and 50-501A
Memorandum and Order of the Board on Applicants' Motion for Determination That Davis-Besse Unit 1 is "Grandfathered" for Purposes of Operation, LBP-76-2, January 7, 1976 . . . . . 39
Memorandum and Order of the Board With Respect to Applicants' Request for Certain Procedural Rulings, LBP-76-5, February 9, 1976 . . . . . 127

Memorandum of the Board Relating to Motion to Compel Production of Civil Investigative Demand Documents, LBP-76-8, March 1, 1976 . . . . . 199
Order Certifying Ruling in Special Section 2.713 Proceeding, LBP-76-11, March 19, 1976 . . . . . 223
(Perry Nuclear Power Plant, Units 1 and 2), Dockets 50-440 and 50-441
Supplemental Partial Initial Decision (Authorizing Issuance of Limited Work Authorization Amendment), LBP-76-17, May 10, 1976 . . . . . 621
UNION ELECTRIC COMPANY
(Callaway Plant, Units 1 and 2), Dockets STN 50-483 and STN 50-486
Initial Decision (Construction Permit), LBP-76-15, April 8, 1976 . . . . . 445
VIRGINIA ELECTRIC AND POWER COMPANY
(North Anna Power Station, Units 1 and 2), Dockets 50-338 and 50-339
Order, LBP-76-1, January 6, 1976 . . . . . 37

---

INDEXES
Case Name Index . . . . . 953
Legal Citations Index . . . . . 956
Cases . . . . . 956
Regulations . . . . . 971
Statutes . . . . . 979
Subject Index . . . . . 983
Facility Index . . . . . 1006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-304

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles

In the Matter of

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

| | |
|---|---|
| (Indian Point, Unit No. 1) | Docket No. 50-3 |
| (Indian Point, Unit No. 2) | Docket No. 50-247 |
| (Indian Point, Unit No. 3) | Docket No. 50-286 |

Messrs. William H. Cuddy, Gerald Garfield, and Renard J. Kolasa, Hartford, Connecticut, for the appellants, the Northeast Nuclear Energy Company, *et al.*

Mr. Harry H. Voigt, Washington, D.C., for the applicant, the Consolidated Edison Company of New York, Inc.

Mr. David S. Fleischaker, Washington, D.C., for the intervenor, the Citizens Committee for Protection of the Environment.

Mr. Carmine J. Clemente, Albany, New York, for the New York State Atomic Energy Council.

Mr. Frederic S. Gray for the NRC staff.

Applicants in a Massachusetts construction permit proceeding filed an untimely petition for leave to intervene in a special seismic proceeding involving operating reactors in New York. Without reaching questions of untimeliness, Appeal Board rules that petitioners' interest will not be affected by the outcome of this proceeding, and that intervention is therefore barred by 10 C.F.R. §2.714(a).

Petition denied.

RULES OF PRACTICE: INTERVENTION PETITION

An interest in the resolution of factual questions common to two proceedings is not sufficient under 10 C.F.R. §2.714(a) to support a motion by a party to one of the proceedings for leave to intervene in the other proceeding.

COMMISSION PROCEEDINGS: RES JUDICATA/COLLATERAL ESTOPPEL

Even assuming some similarity between factual issues raised in two proceedings, there are no principles of *res judicata* or collateral estoppel which could make legally binding upon a party to one proceeding factual determinations made in another proceeding in which it did not participate.

LICENSING BOARD: CONSIDERATION OF NRC STAFF EVIDENCE

The NRC staff does not occupy a favored position at licensing hearings. When considering contested issues, a licensing board must evaluate the staff's evidence and arguments in the light of the same principles which apply to the presentations of other parties.

## DECISION

### January 6, 1976

Last August, acting primarily on the basis of a request filed by the New York State Atomic Energy Council, the Commission directed that a special hearing be held to look more closely at the seismic characteristics of the Indian Point site, which is located on the east bank of the Hudson River 43 miles north of the Battery. CLI-75-8, NRCI-75/8 173. At that time, the operating license proceeding involving the third reactor on the site was pending before this Board (the first two reactors had already received operating licenses). For that reason and others set forth in its opinion, the Commission designated us, rather than a licensing board, to preside at the factual inquiry. NRCI-75/8 at 177-78.

We are now faced with an intervention petition of a novel character. The petitioners here, thirty electric utility companies and municipalities headed by the Northeast Nuclear Energy Company, are the applicants in another proceeding. Specifically, they are seeking construction permits for the Montague Nuclear Power Station, which would be located in the town of the same name in northwest Massachusetts.[1] Not surprisingly, their petition departs from the course regularly followed by would-be intervenors. That is, they do not make

[1] See NRC Docket Nos. 50-496 and 50-497.

the familiar claim that they will be affected by the existence or operation of the Indian Point reactors or by the occurrence of an accident at the site. Indeed, they are not at all interested in Indian Point *per se.* Rather, their claimed interest is only in certain questions of fact which will be addressed here and which they argue are relevant to their application as well.

We hold that the petitioners' asserted interest is inadequate to support intervention. To be sure, they have a legitimate interest in having their position on the issues involved in the *Montague* application fully and fairly considered. But they need not intervene here to preserve that interest. A proper understanding of the relationship between the two proceedings, coupled with a correct appreciation of the role the staff plays in hearings, makes it clear that their interest will not be affected by the *Indian Point* proceeding. Their intervention here is therefore barred by the plain terms of 10 C.F.R. §2.714(a).

A. The original notice of hearing in this proceeding, issued August 5, 1975, set out in a general way the issues to be considered and called for the filing of any intervention petitions by August 29th. None was received by that date. As is customary, the issues were refined during the early pre-hearing stages and eventually were set forth in their final form in our order of October 17th.

On November 14th, two and a half months after the deadline, the *Montague* applicants filed a petition for leave to intervene here. The Commission's Rules of Practice permit intervention by "any person whose interest may be affected by a proceeding . . . ." 10 CFR §2.714(a). In their petition and related papers,[2] the *Montague* applicants proffer the following line of reasoning to support their claim that they possess the requisite interest.

Hearings on the *Montague* application are not scheduled to commence for some time. Thus, claim the petitioners, our *Indian Point* decision is likely to be handed down before their hearing starts.[3] As we now understand it, their concern about this stems from what they see as the practical, rather than the legal, significance of our decision.

In this connection, they point out that the *Montague* application is currently undergoing review by the NRC staff, and that the staff has not yet announced its views concerning the extent to which the proposed plant must be designed to withstand earthquakes. They say we will decide certain "regional" seismic issues

[2] After several of the parties filed briefs opposing their intervention, the petitioners sought and were granted leave to file a supplemental brief.

[3] At the time the intervention petition was filed, it appeared that the *Indian Point* hearing would begin in late January, well before the *Montague* hearing. Intervening developments have made it necessary to push back the start of the *Indian Point* hearing. For purposes of considering the intervention petition, however, we will assume that our decision on the merits of the seismic issues presented here will be rendered prior to the taking of any significant steps in the *Montague* proceeding.

which might be fundamental to both proceedings.[4] This could affect the staff review of their application, they argue, particularly if our decision endorses the staff viewpoint. For they claim that the staff often uses the same experts to review a particular technical question which recurs in connection with different applications. If those experts are proponents of a particular theory, the staff can be expected to present that theory "with presumptive force in another proceeding" once it has been upheld in one case.[5] It has this force, the petitioners go on to argue, because the staff "enjoys a special status in NRC licensing proceedings."[6] Although they profess to "have no doubt about the ability of the [*Montague* Licensing Board] . . . to make a fair, impartial and independent review of the record in that proceeding",[7] the petitioners fear that, owing to the staff's "special status," the outcome of the Commission's review of its application will be unduly influenced by the position the staff takes. Their fears are already being realized, they say, because the staff has advised them that the seismological section of the *Montague* safety evaluation report is being held up pending adoption of a staff position, which in turn, according to "technical representatives of the staff," will be determined by the outcome of the *Indian Point* proceeding.[8]

The petitioners' papers also deal with the questions raised by the untimeliness of the petition. Good cause exists for its belated filing, say the *Montague* applicants, because it was not until we issued our October 17th order that it became clear that the *Indian Point* issues were not purely "local" in character but could overlap those present in *Montague*. Their papers also attempt to show that the four additional factors that must be considered in connection with a late petition weigh in their favor.[9]

The existing parties to the proceeding take differing views as to the legitimacy of the attempt to intervene. Consolidated Edison, the applicant here, states simply that it has no objection to the intervention. The other three parties—the NRC staff, the State Atomic Energy Council, and the Citizens Committee for the Protection of the Environment—all oppose intervention for various reasons.[10]

---

[4] The required seismic design for each facility will depend in important part on characteristics peculiar to the individual site. But "regional" characteristics can also play a significant role. See, *e.g.*, 10 CFR Part 100, Appendix A, Section V.

[5] December 12th Brief, p. 9.

[6] *Id.* at 10.

[7] *Ibid.*

[8] *Id.* at 10-11.

[9] See 10 C.F.R. §2.714(a); *Nuclear Fuel Services* (West Valley Reprocessing Plant), CLI-75/4, NRCI-75/4R 273, 275.

[10] In order to avoid lengthening this opinion, we do not summarize their arguments here. Much of what those parties had to say, however, has been quite useful to us.

B. There is no need for us to reach the potentially troublesome questions which arose because the petition was filed late. For regardless of what we think of the proferred excuse for the tardiness and the other factors which must be considered in determining whether untimeliness is a bar, intervention must be denied on the more fundamental ground that the petitioners do not possess the requisite interest, *i.e.*, they do not have an interest that might be affected by the proceeding.

In reaching this conclusion, we have assumed for present purposes the validity of the petitioners' assertions that there is at least some similarity between the *Montague* and *Indian Point* issues. And, like the petitioners, we subscribe to the proposition that there are no principles of *res judicata* or collateral estoppel which could make legally binding upon them any decision which we reach on factual issues in this proceeding if they do not participate here.[11]

Recognizing that any factual determinations we make here will not bind either the *Montague* Licensing Board or the parties to the proceeding,[12] we turn to the petitioners' claim that, owing to the manner in which the staff conducts its affairs, our decision will have an adverse practical effect on them. We can reject that claim without taking issue with either their characterization of how the staff does business generally, or their reports of how the staff is treating their application in particular. For the petitioners' reliance on such matters demonstrates only that they have misconstrued the nature and significance of the staff's role in the adjudicatory system established by the Commission.

---

[11] See the petitioners' December 12th Brief, p. 6. Compare *Duke Power Co.* (Catawba Units 1 and 2), LBP-74-5, 7 AEC 82 (1974), where an intervenor was barred from litigating certain issues which had been decided adversely to it in an earlier proceeding in which it had participated. The earlier proceeding, while concerned with a different facility, had involved the same applicant and a reactor of similar design. See also *Alabama Power Company* (Farley Units 1 and 2), CLI-74-12, 7 AEC 203 (1974).

[12] Although in any event the *Montague* applicants' lack of interest bars their intervention here, we also note that permitting them to intervene would not simplify the *Montague* proceeding. This follows from the very principles which they rely upon to demonstrate that our *Indian Point* decision will not be legally binding on them if they do not participate here. By that same token, if the *Montague* applicants were permitted to intervene here, they could not use any favorable factual determinations against parties to the *Montague* proceeding who may oppose them on seismic issues. Thus, even on the practical level, permitting the *Montague* applicants to intervene here would accomplish little, for the *Montague* intervenors would remain free in any event to litigate the "regional" issues in the *Montague* proceeding.

In the first place, contrary to the petitioners' apparent view, the staff does not occupy a favored position at hearings.[13] We have taken pains to point out that, when a board comes to decide contested issues, it must evaluate the staff's evidence and arguments in the light of the same principles which apply to the presentations of the other parties.[14] In short, the staff's views "are in no way binding upon" the boards; they cannot be accepted without passing the same scrutiny as those of the other parties.[15]

This understanding of how the adjudicatory system operates serves to demonstrate that the petitioners' fears are unfounded. The situation they find themselves in is not unusual; nor are their interests threatened by the *Indian Point* proceeding. For in all cases—whether or not a similar issue is pending elsewhere—an applicant runs the risk of being unable to convince the staff's expert to subscribe to the applicant's way of thinking. And whenever that occurs—regardless of whether the staff's view is as yet untested or has been accepted or rejected in another proceeding—the applicant's (or any other party's) remedy is the same. If it disagrees with the staff's assessment, it can and should raise the issue in the hearing process and thus put before the licensing board the relative merits of its and the staff's positions. The final decision lies with the boards, not with the staff. In this connection, the petitioners have expressly indicated their confidence in the *Montague* board's ability to resolve contested issues fairly (see p. 4, *supra*).

Thus, no matter what position the staff takes in the course of its review process, we cannot conceive of a situation in which an applicant would be unable to protect its interest fully in the course of the hearing on its own application. In particular, the interest of the petitioners here in a fair resolution

---

[13] *See Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Station), ALAB-194, 7 AEC 431, 445 (text accompanying fns. 27-29), 446 (1974); *Southern California Edison Co.* (San Onofre Units 2 and 3), ALAB-268, NRCI-75/4R 383, 400 (1975).

[14] *Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Station), ALAB-138, 6 AEC 520, 532 (additional views of Mr. Farrar) (1973); ALAB-229, 8 AEC 425, 440-41 (1974), reversed on other grounds, CLI-74-40, 8 AEC 809 (1974).

[15] ALAB-268 (*supra*, fn. 13), NRCI-75/4R at 399; *Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Station), ALAB-179, 7 AEC 159, 174 fn. 27 (1974); ALAB-217, 8 AEC 61, 68 (1974). In contrast to this view, the petitioners went so far as to suggest that the staff acts in a "quasi-judicial" capacity at the hearings. December 12th Brief, p. 10. To support this suggestion, they quoted a sentence from a memorandum which the staff filed in the *Montague* proceeding. In the first place, the sentence quoted does not support the conclusion the petitioners attempt to draw from it. Moreover, in that memorandum the staff was arguing that its assessments *are* subject both to testing by other parties and to "the careful scrutiny of Licensing Boards." (Memorandum, p. 11). And in the sentence which followed the one quoted, the staff took pains to emphasize the distinction between its role at the hearings and "the adjudicatory role accorded by the Commission to the Licensing Boards." (Memorandum, p. 12).

of the issues involved in their *Montague* application cannot be adversely affected by the *Indian Point* hearing.

We must decline, then, to permit the *Montague* applicants to intervene and participate as a party here.[16] This does not mean that other contributions they may wish to make would be unwelcome. If, for example, when the hearing is completed they wish to file an *amicus* brief setting forth their view of what the evidence establishes, we would quite likely grant them leave to do so. Or, if they have in their possession or control evidence bearing on the "regional" issues which the parties to this proceeding are not aware of,[17] we would urge them to make it available to those parties.

---

Petition for leave to intervene *denied.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

---

[16] The minority opinion of one of our colleagues in a recent case suggested that a board can permit those who have no right to intervene to do so "in the sound exercise of administrative discretion." *Long Island Lighting Company* (Jamesport Units 1 and 2), ALAB-292, NRCI-75/10 631, 658 (opinion of Mr. Salzman).

We need express no view as to whether the Commission's rules would permit us to allow intervention on that basis. See *Jamesport*, NRCI-75/10 at 645, fn. 14 (opinion of Mr. Rosenthal) and 653, fn. 6 (opinion of Dr. Buck). For the *Montague* applicants' petition simply does not present any justification for our taking such an extraordinary step.

[17] See their petition, p. 8; December 12th Brief, p. 23.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-305

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. Lawrence R. Quarles
Michael C. Farrar

In the Matter of

Docket No. 50-358

CINCINNATI GAS & ELECTRIC COMPANY ET AL.

(William H. Zimmer Nuclear Power Station)

Upon applicants' appeal from an order granting intervention and a hearing in an operating license proceeding, the Appeal Board rules that the Licensing Board failed (1) to determine each petitioner's requisite personal interest and the adequacy of at least one of his contentions, and (2) to articulate the basis for those determinations in reasonable detail.

Licensing Board order vacated. Cause remanded with instructions directing Board to hold a special pre-hearing conference (pursuant to 10 CFR §2.751a) and, thereafter, to rule *de novo* on each petition to intervene.

RULES OF PRACTICE: OPERATING LICENSE HEARING

As distinguished from the case of applications for construction permits, a formal hearing need not be held on every application for an operating license. Rather, one whose interests may be affected by operation of a facility may petition for such a hearing, indicating the specific aspect as to which he wishes a hearing, the facts pertaining to his interest, and the basis for his contentions (10 CFR §2.714(a)).

RULES OF PRACTICE: OPERATING LICENSE HEARING

Before an operating license hearing may be directed or intervention granted, a licensing board is required at the minimum (1) to make specific determinations on the questions whether each petitioner has established the requisite personal interest and has set forth at least one adequate contention, and (2) to articulate in reasonable detail the basis for those determinations.

## DECISION

**January 7, 1976**

Messrs. Troy B. Conner, Jr., Washington, D. C., and William J. Moran, Cincinnati, Ohio, for the applicants.

Mr. Stephen M. Sohinki for the NRC Regulatory Staff.

The Cincinnati Gas & Electric Company and two other utilities jointly applied for a Commission license to operate the Zimmer Nuclear Station now under construction on the Ohio River some 24 miles southeast of Cincinnati.[1] The Commission caused notice of their application to be published in the *Federal Register* (40 *Fed. Reg.* 43959, September 24, 1975). Among other things, that notice informed persons whose interests might be affected by the facility that they were entitled to request a hearing on the application and to seek leave to intervene to protect those interests.

The Miami Valley Power Project, Dr. David B. Fankhauser, Mari B. Leigh and the City of Cincinnati separately petitioned for a hearing and for leave to intervene. The Commission referred those petitions to a Licensing Board for determination. After receiving the applicants' and the staff's responses, and without further proceedings, the Board on November 28, 1975 entered an order granting all four intervention petitions and directing a hearing. We now have before us the applicants' appeal from that order. For the reasons which follow, the Board's order is vacated and the cause remanded for further proceedings not inconsistent with this opinion.

1. As distinguished from the case of an application to construct a nuclear power generating station, a formal hearing need not be held on every application for a license to operate such a station.[2] Rather, under the Commission's regulations, one whose interests may be affected by operation of the facility may petition for such a hearing. To be successful, the petitioner must identify "the specific aspect . . . as to which he wishes to intervene and/or on which he bases his request for a hearing" and set forth under oath "with particularity both the facts pertaining to his interest and the basis for his contentions with regard to each aspect." 10 C.F.R. §2.714(a). The rules then call for a "special prehearing conference" to consider all intervention petitions. 10 C.F.R. §2.751a. Among other things, at that conference the licensing board is expected

[1] The other participating utility companies are the Columbus and Southern Ohio Electric Company and the Dayton Power and Light Company.

[2] *Gulf States Utilities Company* (River Bend Station, Units 1 and 2), ALAB-183, 7 AEC 222, 226 fn. 10 (1974).

to identify at least preliminarily any litigable issues, to determine the parties to the proceeding, and to issue a prehearing order which controls the subsequent course of the proceeding unless later modified for good cause. *Ibid.* In addition, before a hearing may be directed or intervention granted, the licensing board is required at the minimum (1) to make specific determinations on the questions whether each petitioner had established the requisite personal interest and had set forth at least one adequate contention and (2) to articulate in reasonable detail the basis for those determinations.[3]

2. The substance of the applicants' contentions on appeal is "that for three of the four petitions [Miami Valley, Leigh and Fankhauser] the Board has not made specific determinations for this dual test on either the 'interest' or 'contention' aspects of the petitions and thus incorrectly admitted [these] petitioners as parties," and with regard to the City of Cincinnati's petition, the Board failed to specify which if any of the City's contentions were acceptable.[4] The applicants also complain that the Board below assumed that they were not opposing the City's petition, which in fact was not the case. Applicants say they did oppose that petition, but only with respect to the adequacy of the City's contentions.

The staff generally supported the petitions to intervene. On appeal, however, the staff agrees that the applicants are entitled to specific findings regarding interests and contentions and that "the Order appealed from is deficient in this regard."[5] The staff also notes that the Board disposed of the petitions without convening the "special prehearing conference" called for by 10 C.F.R. §2.751a. Believing that if such a conference had been held the deficiencies in the Board's order might have been avoided, the staff recommends that the cause be remanded for such a conference or at least for a supplemental order "clearly delineating the Board's findings with respect to the interest and contentions of each petitioner."[6]

None of the petitioners filed a brief in response to the applicants' appeal; the time within which to do so has now expired.

3. There is merit in both the applicants' and the staff's positions. We have previously stressed in connection with intervention petitions that

> we deem it to be the general duty of licensing boards to insure that . . . orders contain a sufficient exposition of any ruling on a contested issue of law or fact to enable the parties, and this Board on its own review, readily to apprehend the foundation for the ruling. Compliance with this

---

[3] *Northern States Power Company* (Prairie Island Nuclear Generating Station, Units 1 and 2), ALAB-104, 6 AEC 179 (1973); *Duquesne Light Company* (Beaver Valley Power Station, Unit No. 1), ALAB-105, 6 AEC 181 (1973).

[4] Applicants' brief on appeal, pp. 3-5.

[5] Staff brief on appeal, p. 3.

[6] *Id.* at pp. 5-6.

general duty is not a mere procedural nicety but is a necessity if we are to carry out efficiently our appellate review responsibilities.[7]

This requirement for reasoned decision-making is neither burdensome nor inappropriate. Indeed, it is neither more nor less than the standard which the federal courts have long demanded of agency decisions.[8] The order in question is manifestly not up to that standard.

We need not belabor the point; a few examples suffice to show why the order of November 28th may not stand respecting any of the four petitions. First, the Board below assumed applicants' acquiescence in the grant of the City of Cincinnati's petition despite their unequivocal statement (at page 5 of their Consolidated Reply to the intervention petitioners) that "we must protect our interests to assure that needed power is available to the public and *therefore oppose the City's petition for leave to intervene.*" (Emphasis added). This misapprehension doubtless explains the Board's failure to specify which if any of the City's several contentions are admissible. But without the identification of a valid contention, a petition to intervene may not be granted.[9]

Again, on the basis of its petition, the Miami Valley group's interest in the operation of the Zimmer facility must rest either on its members' status as customers of one of the applicants or on their residence near the nuclear plant. The decision below, however, does not specify what interest it found this group to have in the facility's operation. This is fatal. On one hand the petition alleges no facts from which it can be determined where any individual group member resides.[10] On the other, whether an individual's status as a utility's customer is by itself sufficient interest to intervene in agency proceedings involving that utility is an open question.[11] Manifestly, in these circumstances the Board's grant of the Miami Valley group's petition cannot be sustained.

The *pro se* petition of Dr. Fankhauser is, among other things, unverified; neither does it specify where he resides in relation to the plant (other than in the same county). Moreover, the Board was informed before it ruled that this petitioner had retained counsel who was preparing and would shortly submit an

---

[7] *Prairie Island*, ALAB-104, *supra*, 6 AEC 179.

[8] "[T]he courts cannot exercise their duty of review unless they are advised of the considerations underlying the action under review.... [T]he orderly functioning of the process of review requires that the grounds upon which the administrative agency acted be clearly disclosed and adequately sustained." *S.E.C.* v. *Chenery Corporation*, 318 U.S. 80, 94 (1943) (Frankfurter, J.). *Accord: Baltimore & O. R.R.* v. *Aberdeen & R. R.R.*, 393 U.S. 87, 92 (1968); *Greater Boston Television Corporation* v. *F.C.C.*, 444 F 2d 841, 851-53 (D.C. Cir. 1970), *certiorari denied*, 403 U.S. 923 (1971); *City of Huntingburg* v. *F.P.C.*, 498 F. 2d 778 (D.C. Cir. 1974).

[9] *B.P.I.* v. *Atomic Energy Commission*, 502 F. 2d 424 (D.C. Cir. 1974).

[10] *See Sierra Club* v. *Morton*, 405 U.S. 727, 739 (1972).

[11] *Portland General Electric Company* (Pebble Springs Nuclear Plant, Units 1 and 2), ALAB-273, NRCI-75/5, 492, 494 (1975).

amended petition.[12] Nevertheless, the Board granted his *pro se* petition without specifying which if any of its nine contentions were acceptable or making any determination respecting his interest. Such a ruling is inadequate.

The Leigh petition contains no less than five contentions. The Board below simply notes that "Leigh . . . has a contention recognized by the Commission's rules."[13] But which one? The order does not say.

Finally, without giving any reasons for doing so, the Board omitted the special prehearing conference called for in section 2.751a of the Commission's Rules of Practice, although those Rules specify that "this conference may be omitted in proceedings *other than contested proceedings.*" (Emphasis supplied). We need not decide whether such a conference must always be held before intervention petitions are ruled upon to agree with the staff that one should have been held here. Many if not all of the serious inadequacies in the Board's order might have been avoided had this been done.[14]

4. In sum, our admonition in *River Bend*[15] bears repeating here. "In an operating license proceeding, unlike a construction permit proceeding, a hearing is not mandatory . . . . There is, accordingly, especially strong reason in an operating license proceeding why, before granting an intervention petition and thus triggering a hearing, a licensing board should take the utmost care to satisfy itself fully that there is at least one contention advanced in the petition which, on its face, raises an issue clearly open to adjudication in the proceeding." We need only add that a board should take equal care in these cases to assure itself that potential intervenors do have a real stake in the proceeding.[16]

---

For the reasons stated, the decision of the Licensing Board is reversed, the order of November 28, 1975 is *vacated* and the cause is *remanded* with instructions to hold the special prehearing conference pursuant to section 2.751a of the Rules of Practice and, thereafter, to rule *de novo* on each petition to intervene. Those rulings shall include explanations why each petition is granted

---

[12] We understand that an amended petition has now been submitted on behalf of Dr. Fankhauser.

[13] Order, p. 5.

[14] We note that on December 24, 1975, a month after it had ruled on the intervention petitions, the Board below issued an order calling for a special prehearing conference.

[15] ALAB-183, *supra*, 7 AEC at 226 (1974) (citations omitted).

[16] *See Sierra Club* v. *Morton*, *supra*, 405 U.S. at 739.

or denied and, if granted, findings identifying that petitioner's interest and specifying the contention or contentions accepted for adjudication.[17]

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

[17] It should go without saying, of course, that nothing in this decision either intimates our views on the proper disposition of any petition or precludes any party's right under the Commission's Rules to file an amended petition.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-306

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles

In the Matter of

HOUSTON LIGHTING AND POWER COMPANY, et al.

(South Texas Project, Units 1 and 2)

Docket Nos. STN 50-498
STN 50-499

Upon review *sua sponte* of the Licensing Board's initial decision (LBP-75-71) [and an earlier partial initial decision (LBP-75-46)] authorizing construction permits for the South Texas Project, Units 1 and 2, Appeal Board concludes that there is no error warranting corrective action. In reaching that conclusion, the Appeal Board indicates that an outstanding issue with respect to the integrity of the facility's steam generator tubes is readily susceptible of full resolution by the time the facility will be ready to commence operation.

Initial decision (LBP-75-71) and partial initial decision (LBP-75-46) affirmed.

## DECISION

### January 14, 1976

On December 17, 1975, the Licensing Board rendered its initial decision, authorizing the issuance of construction permits to the Houston Lighting and Power Company for Units 1 and 2 of the South Texas project. LBP-75-71, NRCI-75/12 894. This initial decision had been preceded by a partial initial decision rendered on August 8, 1975. LBP-75-46, NRCI-75/8 271.[1]

Participating in the proceeding below were the applicant, the NRC staff and the State of Texas [which had intervened under the "interested State" provisions

[1] The August 8 decision dealt with environmental and site suitability matters and paved the way for the issuance of limited work authorizations under 10 CFR 50.10 (e). The December 17 decision addressed the remaining radiological health and safety matters.

of 10 CFR 2.715 (c)]. None of these participants has taken exception to either decision. Thus, the decisions have been reviewed by us *sua sponte*.[2]

Our scrutiny of both decisions and the underlying record has uncovered no error warranting corrective action. We therefore affirm.

This affirmance should not be taken as necessarily constituting an endorsement of each and every finding of the Licensing Board. In this connection, we experienced considerable difficulty in fathoming the precise thrust of paragraph 99 of the August 8 decision, which concerns alternatives to the proposed cooling lake. NRCI-75/8 at 300. On its face, that paragraph appeared to us to make little sense. A reading of the relevant portions of the record shed, however, additional light upon the thought which seemingly was meant to be conveyed; in any event, we are satisfied that the environmental consequences of devoting considerable amounts of land to a cooling lake were sufficiently explored and that there is no warrant to disturb the Licensing Board's conclusion that that cooling system alternative is acceptable.

One further observation is in order. In paragraph 32 of the December 17 decision, the Board pointed to testimony to the effect that "both an improved design and maintenance of all volatile treatment secondary water chemistry will be applied to assure that steam generator tubing integrity is maintained under all conditions of operation". NRCI-75/12 at 905. In a pending operating license proceeding involving a pressurized water reactor facility containing steam generators supplied by the same vendor, this Board has been exploring in depth the steam generator tube integrity question.[3] Although no decision has as yet been reached in that case, there is nonetheless no reason to withhold further our approval of the issuance of construction permits here. Even assuming that steam generator tube integrity should be there determined to be a still unresolved safety problem, on the basis of what has been disclosed in *Prairie Island* to date we have little doubt that the problem is readily susceptible of full resolution by the time the South Texas facility will be ready to commence operation. That is enough for present purposes. See *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, NRCI-75/9 404, 412-13 (September 24, 1975).

---

[2] By unpublished order of September 3, 1975, review of the August 8 decision was deferred pending rendition of the initial decision on the radiological health and safety questions.

[3] See *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-284, NRCI-75/8 197 (August 11, 1975). The evidentiary hearing called for by ALAB-284 was, after a postponement, held on January 6-8, 1976.

The Licensing Board's August 8, 1975 and December 17, 1975 decisions are *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-307

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY AND KANSAS CITY POWER AND LIGHT COMPANY

(Wolf Creek Nuclear Generating Station, Unit No. 1)

Messrs. Gerald Charnoff and Jay E. Silberg, Washington, D. C., for the applicants, Kansas Gas and Electric Company, *et al.*

Upon petition by applicants for imposition of a protective order pending the Appeal Board's determination of their request for directed certification of the Licensing Board's order of January 9, 1976 (requiring public disclosure of certain terms and conditions of a nuclear fuel supply contract between the applicants and a supplier, the Appeal Board, *ex parte*, grants a stay (pending its own further order) of the Licensing Board's order to the extent that it requires disclosure to intervenors, without a protective order, of information which is claimed by applicants to be proprietary in character.

## MEMORANDUM AND ORDER

January 20, 1976

By order dated January 9, 1976, the Licensing Board granted the motion of the State of Kansas and the Mid-America Coalition for Energy Alternatives, intervenors in this construction permit proceeding, for public disclosure of the terms and conditions of a nuclear fuel supply contract between the applicants and Westinghouse Electric Corporation, the fuel supplier. The applicants seek

review of that order through directed certification,[1] claiming that the information in question is proprietary and should be released only under a protective order. The applicants also seek an order permitting the disclosure of the subject information only under protective order pending our decision on the question.

Pending further order of this Board, the Licensing Board's order of January 9, 1976 is hereby *stayed* to the extent that it requires the disclosure to the intervenors, *without a protective order,* of information which is claimed by the applicants to be proprietary in character. Any such disclosure pending our further order shall be subject to the observance of the terms and conditions suggested by the applicants in paragraphs 3 and 4 of the proposed protective order which they submitted to the Licensing Board as Attachment A to their December 1, 1975 filing.[2]

Any formal agreement entered into between the parties as a result of this order shall not constitute a waiver of the right of any party to maintain that the information in question is not entitled to protection against full, public disclosure.

The action herein has been taken *ex parte* on the applicants' motion for two reasons:

(1) Since disclosure of the subject information would moot the question before us, the order we are entering herein is necessary to protect our jurisdiction.

(2) The applicants have represented that the evidentiary hearing is scheduled to commence on Monday, January 26, 1976; accordingly, in the absence of an immediate stay order, the information might well be publicly disclosed before we had an opportunity to consider the dispute fully.

---

[1] See *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-271, NRCI-75/5 478, 482-83 (May 21, 1975).

[2] Those paragraphs read as follows:

3. IT IS HEREBY FURTHER ORDERED that the discovery granted be conditioned upon the following:

a. Only Intervenors' counsel and Intervenors' experts who have a need to know shall be permitted access to the information;

b. Said counsel and experts shall not disclose the information to any third person, nor photocopy, duplicate or transcribe such information;

c. Said counsel and experts shall be permitted to take notes and data from the information, but the disclosure of said notes shall be subject to the restrictions of (b.) and (d.) herein;

d. Said counsel and experts shall utilize the information only for the purpose of preparation of the issues in this proceeding and for no other purpose; and

e. Said counsel and experts shall return the information to Applicants and destroy all notes and data taken therefrom at the conclusion of this proceeding.

4. IT IS HEREBY FURTHER ORDERED that in the event Intervenors need to utilize the information during the evidentiary hearing in this proceeding, the information shall only be disclosed *in camera* under the conditions set forth in Paragraph 3 hereof and the transcript of such portion of the evidentiary hearing shall be sealed.

Our order should not be taken as intimating any view respecting either the warrant for certification or the merits of the controversy. We shall determine those matters following receipt of the briefs of the other parties in response to the applicants' request for certification.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Romayne M. Skrutski
Secretary to the Appeal Board

UNITED STATES OF AMERICA ALAB-308
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

SOUTHERN CALIFORNIA EDISON COMPANY, et al.

(San Onofre Nuclear Generating Station, Units 2 and 3)

Docket Nos. 50-361
50-362

Messrs. Sherman Chickering, C. Hayden Ames, Frank S. Bayley, III and David R. Pigott, San Francisco, California, and Messrs. Rollin E. Woodbury, Robert J. Cahall, David N. Barry, III, Charles R. Kocher and Kingsley B. Hines, Rosemead, California, for the applicants, Southern California Edison Company, *et al.*

Mr. Frederic P. Sutherland, Los Angeles California, for the Consolidated Intervenors.

Messrs. David E. Kartalia and Robert J. Ross for the NRC Staff.

In an earlier decision (ALAB-268), the Appeal Board rejected the applicants' original exclusion area proposal but retained jurisdiction over the matter pending the possible submission of alterations to the proposal. Upon consideration of applicants' modified exclusion area proposal, the Appeal Board rules that (1) the applicants now have sufficient control of the land portion of the exclusion area above the mean high tide line of the beach; (2) there has been presented no reason for it to depart from its previous ruling that the ocean portion of the exclusion area qualifies as a waterway exempted from the total control requirement; and (3) further proceedings are necessary to determine whether the applicants' lack of full control over the "tidal beach" portion of the exclusion area can be dismissed as *de minimis*. The Appeal Board does not reach the question of whether the modified proposal comports with the terms of the

permit granted by the California Coastal Zone Conservation Commission to build Units 2 and 3 of the facility.

Case remanded to the Licensing Board for further proceedings. Construction permits allowed to remain in effect.

EXCLUSION AREA: CONTROL REQUIREMENT

Commission regulations (10 CFR 100.3(a)) require an applicant to show that it is able to exercise control of an exclusion area during normal facility operation as well as in the event of an accident.

REGULATIONS: INTERPRETATION

Although an appeal board is not empowered to recast the plain terms of a regulation so as to achieve what it might deem to be a preferred result, it must equally guard against the adoption of a wooden interpretation which would neither give effect to the underlying intent of the regulation's promulgators nor serve any other discernible legitimate purpose.

EXCLUSION AREA: SIZE

There is no prescribed minimum size for an exclusion area; such an area may be of any size so long as applicable radiation dose limitations at the outer boundary are not exceeded. (See ALAB-268).

REGULATIONS: INTERPRETATION

When an important safety regulation is involved, exceptions to a regulation's requirements should not be lightly implied. It does no disservice to any regulation, however, to interpret and apply it with decent regard for the potential evil promoting its enactment and the precise purpose intended to be achieved.

EXCLUSION AREA: CONTROL REQUIREMENT

There can be situations in which, because of the unusual nature and/or limited scope of the portion of the exclusion area in issue, the inability of the applicant to satisfy the control requirement contained in 10 CFR 100.3(a) can be deemed to be of such little potential safety consequence to warrant being dismissed as *de minimis*.

EXCLUSION AREA: CONTROL REQUIREMENT

Only in very rare instances will an applicant be able to justify an exclusion area which—leaving aside railroads, highways and waterways—it does not fully control. In order to do so, an applicant must show that because of unusual

circumstances it can be said with a high degree of confidence that the non-controlled segment of the exclusion area either (1) will not be used at all by the public; or (2) will be susceptible at most of a limited, defined use which, because of its character, will pose no health or safety threat during normal reactor operations or in the event of an accident.

## STATE REGULATORY REQUIREMENTS: INTERPRETATION

The NRC need not consider whether an applicant's exclusion area proposal must be rejected for want of compliance with the requirements imposed by a state permit, in the absence of a determination by the state regulatory agency that there is such non-compliance.

## MEMORANDUM AND ORDER

### January 22, 1976

Our decision last April in this construction permit proceeding involving Units 2 and 3 of the San Onofre Nuclear Generating Station concluded that the exclusion area then proposed for those units was unacceptable. ALAB-268, NRCI-75/4R 383 (April 25, 1975). This conclusion rested upon the subsidiary determination that the applicants did not possess that degree of control over certain portions of the exclusion area which is required by a governing Commission siting regulation, 10 CFR 100.3(a). That regulation reads as follows:

> "Exclusion area" means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. This area may be traversed by a highway, railroad, or waterway, provided these are not so close to the facility as to interfere with normal operations of the facility and provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety. Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity. Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

Specifically, our concern was directed to the portions of the proposed exclusion area lying outside the boundaries of the station—part of which was intended to be utilized as a State park including, among other things, camping

grounds and beach facilities.[1] For reasons detailed in ALAB-268, which need not be repeated here, it appeared to us that the applicants did not possess the right "to determine all activities" within those and other portions but, rather, could exercise control only in the event of an accident involving the facility. Our reading of the terms of Section 100.3(a) convinced us that this was not sufficient; *viz.*, to satisfy the regulation it must appear that the right of control also exist during normal operation of the facility.

Recognizing the possibility that the applicants might be able to modify their exclusion area proposal to bring it into conformity with Section 100.3(a) as construed, our rejection of that proposal in ALAB-268 was not accompanied by a suspension or revocation of the outstanding construction permits which had been authorized by the Licensing Board. Instead, we chose to leave the permits in effect for a reasonable period during which the applicants would have the opportunity to devise and implement the necessary alterations. Jurisdiction was retained by this Board pending further developments. NRCI-75/4R at 400-01.

Now before us is an alternative exclusion area proposal which the applicants put forward last fall and which has been studied and commented upon by the other parties to the proceeding—the NRC staff and the Consolidated Intervenors. In essence, the proposed exclusion area would retain its roughly elliptical shape (see NRCI-75/4R at 388-91) but would be significantly reduced in size. As was the case initially, roughly half of the territory covered by the exclusion area consists of ocean; otherwise, it now encompasses principally territory over which the applicants undisputably will have full control at all times. Specifically, the major landward portions of the exclusion area consist of the station site (over which the applicants' control was never in doubt) and an area of Camp Pendleton located east of Interstate 5 outside the station site. Under the terms of the original easement from the Navy, the applicants lacked adequate control over the latter area. The Navy has since given the applicants greater authority there, however, with the result that the applicants now have sufficient control over that portion.[2]

As it did before, the exclusion area also includes the beach upon which the facility fronts. The applicants have full control over the segment of beach which is above the mean high tide line. They plan to construct a 15-foot wide concrete walkway along the landward edge of that segment (adjacent to the sea-wall separating the station site from the beach) to permit transit by members of the public between open beach areas upcoast and downcoast from the reduced

[1] The setting of the San Onofre facility is adequately described in ALAB-268. NRCI-75/4R at 388-91. Suffice it to note here that the facility is located along the California coast and is separated from the Pacific Ocean by a beach. Portions of the beach are located above, and other portions below, the mean high tide line.

[2] See the September 1975 "Amendment to Grant of Easement."

exclusion area. Other than the walkway, no part of the beach within the exclusion area above the mean high tide line will be open to the public.[3]

There will also remain within the exclusion area, however, the segment of beach located below the mean high tide line. That segment (in common with the ocean itself) will not be within the applicants' control during the normal operation of the facility and will be available for public use.

## I

The question we must now consider is whether the alternative proposal satisfies the Section 100.3(a) control requirement. What this question comes down to at bottom is whether that requirement is not met because of the continued presence in the exclusion area of the beach located below the mean high tide line (i.e., "tidal beach") over which the applicants have not obtained (and under California law apparently cannot obtain) any, much less full, control. Insofar as the portion of the ocean within the exclusion area is concerned, there is no like issue posed by the absence of control. This is because, in ALAB-268, we expressly held that "the ocean qualifies as a waterway and is thus exempted from the total control requirement." NRCI-75/4R at 394. We have been given no good reason to depart from that holding and, therefore, adhere to it.

In urging us to hold that it is not fatal that the tidal beach is to remain within the exclusion area, the applicants and the staff point to our discussion in ALAB-268 of that beach segment. Although there rejecting the applicants' claim that "the tidal portion of the beach should be encompassed within the waterway exception,"[4] we went on to observe:

> To be sure, if these applicants did possess total control of all the rest of an exclusion area, including the beach on the landward side of the mean high tide line, the lack of control over the narrow strand of beach below the mean high tide line could quite readily be viewed as *de minimis.* In such circumstances, the tidal portion of the beach would undoubtedly be little more than a pedestrian walkway for those wishing to stroll along the shore, or pass from one open part of the beach to another. This being so,

[3] The applicants intend to preclude public use of that beach by means of fencing and the posting of signs with appropriate legends.

[4] The applicants inform us that they have not abandoned that claim. They press upon us their view that the area seaward of the mean high tide line is, by virtue of 43 U.S.C. 1301(a)(2), to be treated as "navigable waters." Although this may well be the case, it is hardly dispositive here. The question confronting us is not whether the tidal beach is a "navigable water" for whatever purposes that designation may be significant. Rather it is whether the beach is a "waterway" within the contemplation and for the purposes of a specific Commission regulation concerning the degree of control an electric utility operating a nuclear power facility must have over the exclusion area for that facility. We continue to believe that a negative answer is required.

considerations similar to those which are applicable to the other passageways would militate against a strict application of the control requirement to the tidal beach.

NRCI-75/4R at 394-95; footnote omitted. Both the applicants and the staff ask that we now convert that *dictum* into a square holding. As the applicant sees it, Section 100.3(a) must be taken

as providing a generic exception applicable to all passageways having characteristics similar to highways, railroads and waterways. Any other construction could lead to incongruous results, such as a highway being subject to the "highway" exception while an integral pedestrian walkway located within the highway boundaries could not be excepted, or a river being subject to the "waterway" exception while a public bicycle path or equestrian trail also within the river's boundaries could not be excepted.[5]

For their part, the Consolidated Intervenors appear to contend that the total control requirement in Section 100.3(a) must be given a literal interpretation. Since the tidal beach does not strictly qualify as a highway, railroad or waterway, Consolidated Intervenors insist that in no circumstances can it be excepted from the total control requirement. Beyond that, they suggest that the tidal beach cannot be dismissed as simply a narrow strand of little significance; in their view, it "is *wide enough* to provide a large and accessible area for recreational activities."[6] In short, they appear to take issue with the factual premise underlying our expressed belief in ALAB-268 that, if the applicants possessed total control of the entire balance of the land within the exclusion area, their lack of similar control over the tidal beach could be treated as *de minimis*.

A. We have long held the view that "[i]n the interpretation and application of [a Commission] regulation, [there is] no mandate to accord the language employed by the Commission the most restrictive reach which a lexicologist would find acceptable. Rather, where several alternative interpretations are possible, we should make that choice which comes closest to fulfilling the regulation's objectives." *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-152, 6 AEC 816, 818 (1973). Put another way, although not empowered to recast the plain terms of a regulation so as to achieve what we might deem to be a preferred result, we must equally guard against the adoption of a wooden interpretation which would neither give effect to the underlying intent of the regulation's promulgators nor serve any other discernible legitimate purpose.

As is true of all of 10 CFR Part 100, Section 100.3(a) is concerned with the protection of the public health and safety in normal reactor operation and in the

[5] Applicants' Response to Consolidated Intervenors' Memorandum Concerning Alternative Exclusion Area Proposal, dated January 2, 1976, p. 4; footnote omitted.

[6] Consolidated Intervenors' Memorandum re Applicants' Alternative Exclusion Area Proposal, dated December 8, 1975, at p. 12.

event of an accident. The control requirement, as well as the other provisions of the Section, must be read in the context of that basic design.

This consideration was explicitly recognized in our discussion in ALAB-268 of what appeared to us to be a salient purpose of the control requirement; namely the assurance that "members of the public, if not wholly excluded, would be sufficiently supervised while in the area to render it unlikely that they would receive radiation doses higher than those permissible at the exclusion area perimeter." NRCI-75/4R at 393. In this connection, on its face Section 100.3(a) reflects the paramount importance attaching to the avoidance of such radiation exposure: "Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, *provided that no significant hazards to the public health and safety will result*" (emphasis supplied).

The exception for highways, railroads and waterways has a like qualification—for the exception to be operative, "appropriate and effective arrangements [must be] made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety." And in ALAB-268 we found the exception readily reconcilable with the tenet that there is a close relationship between control of the exclusion area and the safeguarding of the health and safety of any members of the public within it:

> [I]nherent in the nature of the passageways are additional elements of control which are lacking elsewhere. Particularly with respect to the highways, persons utilizing the passageways can be expected to be (1) highly mobile and thus able to leave the exclusion area quickly; (2) limited by the nature of the passageway to that portion of the exclusion area; and (3) readily excludable from the entire area by the simple expedient of closing the passageway to traffic.

NRCI-75/4R at 393.

B. It was within this framework that we went on in ALAB-268 to examine the applicants' then proposed exclusion area from the standpoint of the observance of the control requirement. Since that area was destined to include within its borders a State park containing significant recreational facilities which might be expected to attract substantial numbers of the public and yet would not be subject to the applicants' control during normal reactor operation, it was easy to conclude that neither the letter nor the intendment of the requirement was being given its due. Clearly, in light of their inability to superintend the public use of a relatively extensive portion of the exclusion area for camping and kindred pursuits, as well as ocean bathing, the applicants would be in no position to insure against the development of a situation giving rise to a threat either to the health and safety of the persons making such use of the area or to the safety of the facility itself.

Under the applicants' alternative proposal, however, no longer will the exclusion area extend upcoast and downcoast to include the State park or any of its facilities. Instead, as we have seen, the boundaries of the exclusion area are to

be contracted so as to remove from the area all territory over which the applicants lack total control (apart from the ocean, Interstate 5, a railroad track and the segment of tidal beach in front of the reactors).[7] Of the land portions of the new exclusion area, the public will be permitted to use, in addition to the highway and railroad, only the tidal beach and the concrete walkway adjacent to the seawall (over which walkway the applicants will have total control).

In the final analysis, then, we are called upon to decide whether we were right in our observation by way of *dicta* in ALAB-268 that, were the applicants to possess total control over the balance of the land portions of their exclusion area, the lack of equivalent control over the tidal beach could be disregarded as *de minimis*. To answer that question we must first come to grips with the Consolidated Intervenors' seeming claim that Section 100.3(a) does not permit resort to a *de minimis* doctrine; *viz.*, that unless these applicants possess full control over every square inch of their exclusion area which does not literally fall within one or another of the specific exceptions, there is a fatal non-compliance with the mandate of the Section.

Having taken a fresh look at the matter in light of this claim, we believe that it is neither necessary nor desirable to impart such rigidity to Section 100.3(a). An important safety regulation being involved, exceptions to the Section's requirements of course should not lightly be implied. By the same token, however, we adhere to the view expressed in *Midland*, ALAB-152, *supra*, that it does no disservice to any regulation—whether inspired by safety considerations or not—to interpret and apply it with decent regard for the potential evil prompting its enactment and the precise purpose intended to be achieved.[8] Such regard here compels us to the conclusion that there can be situations in which, because of the unusual nature and/or limited scope of the portion of the exclusion area in issue, the inability of the applicant to obtain full control over it

[7] In ALAB-268, we suggested that a reduction of the exclusion area might be possible consistent with the observance of applicable radiation dose limitations at its outer boundaries. NRCI-75/4R at 400, fn. 44. There is, of course, no prescribed minimum size for exclusion areas; such an area may be of any size so long as the radiation dose limitations are not exceeded. *Id.* at 409, fn. 57.

[8] This is so irrespective of whether, in the specific instance, the end result may happen to favor or rather (as in *Midland)* to disfavor the interests of the applicant or licensee at bar. The regulations of this Commission are grounded in the public interest and, as such, do not have as their aim the conferring of an advantage upon either the proponents or the opponents of an application for a nuclear license.

can be deemed to be of such little potential safety consequence to warrant being dismissed as *de minimis.*[9]

One example which comes immediately to the fore would be a segment of an exclusion area which, although not under the applicants' control, nonetheless might be unavailable as a practical matter for public use by reason of its location, size, or terrain—or, perhaps, if under government ownership, by reason of a strictly enforced prohibition against entry. Given such complete inaccessibility, it is difficult to fathom in what significant respect protection of the public health and safety might be furthered were the utility to possess the legal right to determine all activities in that area.

Even if not wholly inaccessible to the public, the non-controlled portion of the exclusion area might possess unique characteristics which *per se* would limit its use in such a manner that the creation of a public health and safety hazard would be obviated. We had this in mind when we hypothesized in ALAB-268 that, of itself, the tidal beach would serve as little more than a pedestrian walkway for persons wishing to stroll along the beach or to pass from one open part of the beach to another. We leave for scrutiny later in this opinion the Consolidated Intervenors' claim that this hypothesis is factually unsupported. For now it suffices to say that, assuming that the tidal beach is, for all relevant purposes, *in para materia* with the passageways specifically exempted from the control requirement, we have been given no overriding safety reasons why it should not be treated in the same fashion.

We do not wish to be understood as implying that it often will be that an applicant will be able to justify an exclusion area which—leaving aside railroads, highways and waterways—it does not fully control. To the contrary, we think that this will be possible only in the very rare instances in which, because of unusual circumstances, it can be said with a high degree of confidence that the non-controlled segment of the exclusion area either (1) will not be used at all by the public; or (2) will be susceptible at most of a limited, defined use which, because of its character, will pose no health and safety threat during normal reactor operations or in the event of an accident. Needless to say, the burden will always be on the applicant to demonstrate the existence of such circumstances and the resultant unimportance from a safety standpoint of its inability to determine all activities within the exclusion area (or to exclude the public from the area entirely).

---

[9] It should be noted that the *de minimis* concept is by no means a stranger to regulatory schemes involving the public health and safety. To the contrary, that concept has been held applicable by the courts to, *e.g.*, the adulterated food provisions of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 301, *et seq.*, and more particularly, to the definition of an "adulterated" food contained in 21 U.S.C. 342. See *338 Cartons, Etc.* v. *United States*, 165 F. 2d 728, 731 (4th Cir. 1947); *United States* v. *1,500 Cases More or Less, Etc.*, 236 F. 2d 208, 215 (2nd Cir. 1956); *United States* v. *Capital City Foods*, 345 F. Supp. 277 (D. N.D. 1972).

C. This brings us to the question as to whether the applicants have met that burden with regard to the tidal beach here. We conclude that, given the present state of the record, they have not and that further proceedings are necessary to determine whether the applicants' lack of full control over the tidal beach has no safety implications (in terms of users of the beach and, in addition, the facility itself).

Our assumption in ALAB-268 that the tidal beach would serve as little more than a pedestrian walkway was based upon what we then understood to be the facts. Specifically, it was our impression that what we were dealing with was a long strip which, even at low tide, was extremely narrow (and at high tide would be fully submerged). In such circumstances, it seemed to us, the tidal beach was scarcely a fit candidate for anything other than "stroll[ing] along the shore" or pass[ing] from one open part of the beach to another." NRCI-75/4R at 394.

From more recently submitted information, it now appears, however, that we had been under a misapprehension respecting the precise width of the segment of tidal beach still to be within the exclusion area. Amendment 22 of the Preliminary Safety Analysis Report, constituting the alternative exclusion area proposal, contains a drawing (identified as Figure 1.8-C) which reflects that that segment (which is 0.8 miles long) has, at low tide, a width of as much as 150 feet.[10] This maximum width is greater than what, on the basis of the material we focused on when we rendered ALAB-268, we had thought to be the case.

It does not necessarily follow from this recent clarification that our *de minimis* observations in ALAB-268 were wrong. Among other things, the fact remains that, depending upon the state of the tide, a portion of all of the tidal beach may be under water at any particular time. This being so, it may well be that few members of the public could reasonably be expected to turn to the tidal beach on which the reactors front for such activities as sunbathing and swimming, in preference to the wider expanses of open beach (which are to be developed as a State park) upcoast and downcoast from the exclusion area. Accordingly, it may be true that the tidal beach will serve essentially as a passageway.

But, as previously noted, the Consolidated Intervenors have placed in issue the extent of the potential use of the tidal beach for recreational activities. There thus being a raised question of fact respecting a likely crucial aspect of the alternative exclusion area proposal, the appropriate course is a remand to the Licensing Board for resolution of the matter on a more fully developed record. All that we have before us are the memoranda of counsel in support of or in opposition to the new proposal. Such memoranda, and the representations and assertions contained therein, do not amount to evidence on the basis of which necessary factual findings can be made.

---

[10] At other points, the low tide width is considerably less.

We leave it to the Licensing Board to decide whether an additional hearing must be held or whether, instead, the tidal beach use issue is amenable to disposition upon the basis of affidavits. In all events, once the facts bearing upon that issue have been ascertained, the Board is then to determine, taking guidance from what has been said in this opinion, whether the applicants have met their burden of establishing that their lack of control over the tidal beach within the exclusion area is *de minimis.* The relief, if any, which should be ordered will depend, of course, upon what conclusion the Board reaches on that score.[11]

II

The Consolidated Intervenors also claim that the alternative exclusion area proposal does not comport with the terms of the permit which the applicants received from the California Coastal Zone Conservation Commission to build Units 2 and 3 of the San Onofre facility. The applicants dispute this claim. We do not reach the question. It is for the Coastal Zone Commission to interpret and enforce the terms of its own permit. The Nuclear Regulatory Commission will need to concern itself with the matter only if and when the Coastal Zone Commission calls upon the applicants to modify their exclusion area proposal.

---

The case is *remanded* to the Licensing Board for further proceedings not inconsistent with this opinion. The construction permits shall remain in effect pending the outcome of those proceedings.[12]

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

---

[11] In passing upon the significance of the applicants' lack of control over the tidal beach, the Licensing Board will be called upon to consider the amount of radiation exposure that a user of that beach might experience in the event of an accident—another issue as to which there is apparent disagreement among the parties. If, as the applicants and the staff maintain, that exposure would be well within permissible limits, this might have a bearing upon the importance or nonimportance of the applicants' inability to bar the public from the beach entirely. It might also bear upon whether, given the nature and extent of the foreseeable use of the tidal beach (as might be found by the Licensing Board on the evidence adduced by it), the beach will be subject to evacuation in an acceptable time period (*i.e.*, before any impermissible radiation exposure would be encountered by the evacuees).

[12] The Consolidated Intervenors have not asserted that the camping grounds—which are now to be located outside of, rather than within, the exclusion area— might pose a threat to the security of the reactors. Our independent review has convinced us that the security fence separating the camping ground from the exclusion area, taken in conjunction with other security measures to be employed, will provide sufficient protection against incursions.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-309

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman[1]
Dr. Lawrence R. Quarles

In the Matter of

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

(WPPSS Nuclear Projects Nos. 1 and 4)

Docket Nos. STN 50-460
STN 50-513

Upon review *sua sponte* of Licensing Board's partial initial decision (LBP-75-41) dealing with environmental and site suitability matters relative to WPPSS Projects 1 and 4, and its initial decision (LBP-75-72) authorizing the issuance of a construction permit for WPPSS Project 1, the Appeal Board finds no error warranting corrective action.

Initial decision and partial initial decision affirmed.

## DECISION

January 23, 1976

On December 22, 1975, the Licensing Board rendered an initial decision authorizing the issuance of a construction permit to the Washington Public Power Supply System for unit No. 1 of the WPPSS Nuclear Projects. LBP-75-72, NRCI-75/12, 922. This initial decision had been preceded by a partial initial decision rendered on July 30, 1975. LBP-75-41, NRCI-75/7, 131.[2]

Initially the participants in the hearings were the applicant, the NRC staff, the Thermal Power Plant Evaluation Council of the State of Washington (Council), and Mr. Donald F. X. Finn. The Council was permitted to participate under 10 C.F.R. §2.715(c), but chose not to participate beyond the

[1] Originally Mr. John B. Farmakides was the third member of this Board but he withdrew upon his transfer to a position with another agency on December 7, 1975.

[2] The July 30 decision dealt with environmental and site suitability matters and paved the way for the issuance of limited work authorizations under 10 C.F.R. §50.10(e). The December 22 decision addressed the remaining radiological health and safety matters.

environmental session. Mr. Finn was allowed to intervene under 10 C.F.R. §2.714(a), but at the conclusion of the evidentiary session on environmental matters the Board held him in default and dismissed him from the proceeding.[3]

During the course of the health and safety phase of the hearings the applicant requested that the decision on Project No. 4 be postponed pending resolution of certain financial matters. Thus, while the Licensing Board's partial initial decision covered both Projects No. 1 and No. 4, its initial decision authorized a construction permit for Project No. 1 only.

Both the applicant and the staff filed exceptions to the partial initial decision. However, after the issuance of the initial decision the applicant withdrew its exception in the context of WNP-1 but maintained its exception with respect to WNP-4. The staff, after first reiterating its exception, withdrew the exception for both No. 1 and No. 4. Thus, the decisions before us now—relating to the authorization of a construction permit for Unit 1—are without exceptions and, accordingly, have been reviewed by us *sua sponte.*[4] Our scrutiny of the decisions and the underlying record has uncovered no error warranting corrective action.

The Licensing Board's July 30, 1975 and December 22, 1975 decisions are *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

[3]The matters on which Mr. Finn had been granted intervention were covered in these evidentiary sessions. Mr. Finn failed to appear at either of the two prehearing conferences or during the entire evidentiary session.

[4]By unpublished order of August 12, 1975, briefing time for all parties was extended and our review of the July 30 decision was deferred pending the rendition of the initial decision on the radiological health and safety questions.

UNITED STATES OF AMERICA ALAB-310
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. John H. Buck
Dr. W. Reed Johnson

In the Matter of Docket No. 50-334

DUQUESNE LIGHT COMPANY, et al.

(Beaver Valley Power Station, Unit 1)

Upon examination of Licensing Board's initial decision authorizing the applicant to conduct low power testing (LBP-76-3), Appeal Board vacates that portion establishing the appeal period and sets the proper appeal period, as required by 10 C.F.R. (1975 ed.) §2.762.

RULES OF PRACTICE: DUE PROCESS

Since parties have no occasion to act in reliance upon the length of an appeal period until after a decision is rendered, a change in Commission rules shortening the appeal period during the course of a proceeding does not deprive parties of due process.

## ORDER

January 23, 1976

Yesterday the Licensing Board issued an initial decision in this operating license proceeding authorizing the applicant to conduct low power testing. LBP-76-3, NRCI-76/1 44. The final paragraph of that decision stated, *inter alia*, that exceptions could be filed within twenty days (twenty-five in the case of the staff). NRCI-76/1 at 71. In thus setting the appeal period, the Licensing Board relied upon the provisions of the Rules of Practice as they read nearly three years ago. See 10 C.F.R. (1973 ed.) §2.762. Under the current Rules, the time for filing exceptions is seven days. 10 C.F.R. (1975 ed.) §2.762.

The reasons the Licensing Board assigned for taking this action ignored the Commission's unequivocal mandate that the change in appeal period "shall be applicable to initial decisions rendered on or after" March 2, 1973. 38 *F. R.* 5624 (March 2, 1973). The Board below also failed to take account of our holding that another licensing board had erred in similarly disregarding that same Commission mandate. *Consolidated Edison Company of New York* (Indian Point Unit 3, ALAB-281, NRCI-75/7 6 (July 11, 1975).[1] The Licensing Board did mention two other decisions of this Board. Those decisions are, however, inapposite.[2]

For the foregoing reasons, the last two sentences of text (NRCI-76/1 71) of the January 22, 1976 initial decision are hereby *vacated.* Unless otherwise ordered by this Board for good cause shown, exceptions to that initial decision may be filed by any party within seven (7) days after service of this order. A brief in support of the exceptions shall be filed within fifteen (15) days thereafter (twenty (20) days in the case of the NRC Staff). Within fifteen (15) days after the service of the brief of appellant (twenty (20) days in the case of the NRC

[1] As we said then, "we can see no plausible basis for the Licensing Board's view" that due process considerations preclude application of the shortened appeal period to pending cases. As might be expected, the Commission's directive concerning the effective date focused on whether the stage of the case affected by the rule change had been reached when the rule was announced. Thus, the shortened appeal period applies only to initial decisions handed down *after* the new rule was announced. This is patently reasonable. The parties to pending cases have no occasion to act in reliance upon the length of an appeal period until after a decision is rendered. Only then need they decide whether to appeal. The announcement of the change in appeal period occurred nearly three years before the instant decision. It is, of course, the general rule that a judicial body must apply the law in effect at the time its decision is rendered, "unless doing so would result in manifest injustice" or there is a direction to the contrary. *Potomac Electric Power Company* (Douglas Point Units 1 and 2), ALAB-218, 8 AEC 79, 82-83 (1974), and cases there cited.

[2] *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Station), ALAB-124, 6 AEC 358, 362 fn. 4 (1973), cited in *Consolidated Edison Co. of New York* (Indian Point Unit 3), ALAB-186, 7 AEC 245, 247 fn. 3 (1974). The Board below thought that those two decisions "held that more restrictive rules adopted during the course of a proceeding, are not applicable to a pending case." (NRCI-76/1 at 71, fn. 13). No such broad holding is reflected in what we said there. We did indicate that the rule change then under discussion would not be applied in a case in which the notice of hearing had already been issued. But that was because that particular change—to 10 CFR §§2.104(c) and 2.760a—involved a matter that affected the contents of the notice of hearing and served as the blueprint for the entire remainder of the proceeding.

Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

Dr. Johnson did not participate in the consideration or disposition of this matter.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-1

ATOMIC SAFETY AND LICENSING BOARD

Frederic J. Coufal, Chairman
Lester Kornblith, Jr., Member
Dr. R. Beecher Briggs, Member

In the Matter of

VIRGINIA ELECTRIC AND POWER COMPANY

(North Anna Power Station, Units 1 and 2)

Docket Nos. 50-338
50-339
(10 CFR Part 50, Appendix D, Section B, Proceeding)

January 6, 1976

Upon petition by the NRC staff for reconsideration of a certain license condition contained in the initial decision of December 5, 1975 (LBP-75-70), the Licensing Board strikes the language in question and substitutes a new condition which more accurately reflects its original intent.

## ORDER

The Staff has petitioned that paragraph 38 of the Initial Decision dated December 5, 1975, be reconsidered. Applicant has responded to the petition. Paragraph 38 contains license conditions including the following:

> The Applicant's clearance of right-of-way shall be limited to 150 feet, which is the width necessary for construction of a 500 kV line, until such time as construction of the projected 230 kV line has received the necessary State approvals.

This language, as the Staff points out, may be interpreted to be a conclusion that Nuclear Regulatory Commission approval is not needed for the construction of the mentioned 230 kV line; an amendment is suggested indicating that NRC approval is needed. Applicant argues that the NRC has no authority over the line but suggests that the Board need not meet the question now.

The Board does not consider that either the question of need for a 230 kV line paralleling the 500 kV North Anna-Morrisville line or the question of need

for NRC approval of such a line was before it for decision. No opinion on either matter was intended to be read into the Board's decision or construction permit condition and no such opinion is necessary for our decision. The intent of the condition was to minimize the environmental impact of the project by prohibiting unnecessary clearance of right-of-way for the construction of the 500 kV line. In our view, clearance of the right-of-way in excess of the 150 feet required for the 500 kV line is unnecessary until such time as the Applicant is prepared to build a second line.

Accordingly, subparagraph 1 of paragraph 38 of the Initial Decision dated December 5, 1975, is stricken in its entirety and the following is substituted therefor:

> The Applicant's clearance of right-of-way in constructing the North Anna-Morrisville 500 kV line along the proposed route should be limited to 150 feet.

Dr. Briggs joins the other Board members in this Order.
It is so ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

Lester Kornblith, Jr., Member

Frederic J. Coufal, Chairman

Dated at Bethesda, Maryland,
this 6th day of January, 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-2

## ATOMIC SAFETY AND LICENSING BOARD

Douglas V. Rigler, Chairman
John M. Frysiak, Member
Ivan W. Smith, Member

**In the Matter of**

| | |
|---|---|
| THE TOLEDO EDISON COMPANY and | Docket Nos. 50-346A |
| THE CLEVELAND ELECTRIC ILLUMINATING COMPANY | 50-500A<br>50-501A |
| (Davis-Besse Nuclear Power Station, Units 1, 2, and 3) | |
| THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL. | Docket Nos. 50-440A<br>50-441A |
| (Perry Nuclear Power Plant, Units 1 and 2) | January 7, 1976 |

Upon motion by applicants for a determination of the Commission's authority to issue an operating license for Davis-Besse, Unit 1, prior to the completion of antitrust review, or alternately, for certification of that question to the Commission, the Licensing Board concludes that (1) the operating license for Davis-Besse, Unit 1 is not "grandfathered" by the terms of Section 105(c)(8) of the Atomic Energy Act, and (2) it is not necessary to so construe the Atomic Energy Act in order for the statute to be given the effect intended by Congress. The Board also noted that, even if the statute were interpreted as providing a basis for such "grandfathering," and as permitting post-licensing antitrust review, the applicants have failed to demonstrate that such a course of action would be warranted.

Motion denied. Ruling referred to Appeal Board.

## MEMORANDUM AND ORDER OF THE BOARD ON APPLICANTS' MOTION FOR DETERMINATION THAT DAVIS-BESSE UNIT 1 IS "GRANDFATHERED" FOR PURPOSES OF OPERATION

By Motion of November 4, 1975, Applicants moved this Licensing Board "to enter an order affirming the authority of the Commission to issue a license authorizing the operation of the Davis-Besse Nuclear Power Station, Unit 1, prior to the completion of the antitrust review presently in progress."[1]

By Order of November 6, 1975, this Board set a briefing schedule in which parties opposing the grant of Applicants' Motion had until November 28, 1975 to file responses. Briefs in opposition to Applicants' Motion now have been received from the Department of Justice (Justice), the NRC Staff (Staff) and the City of Cleveland (City).

In March 1971 the Atomic Energy Commission, now the Nuclear Regulatory Commission, issued a construction permit, CPPR-80, for the Davis-Besse Unit 1 station. That permit contained the following condition:

> This permit shall be subject to an antitrust review by the Attorney General pursuant to Section 105 c of the Act. The applicants shall furnish to the Commission such information as the Attorney General determines to be appropriate for the conduct of this review and the rendering of his advice with respect to this permit. The Commission may hold a hearing on antitrust matters on the recommendation of the Attorney General or at the request of any person and, on the basis of its findings made after such hearing, the Commission will continue, rescind, or amend this permit to include such conditions as the Commission deems appropriate. The applicants shall comply with any order or license condition made by the Commission pursuant to Section 105 c of the Act with respect to the licensed activities.

Section 105 c of the Atomic Energy Act of 1954, 42 USC §2011, *et seq.*, was amended effective December 19, 1970, by Public Law 91-560 to provide in §105 c (8) that:

> (8) With respect to any application for a construction permit on file at the time of enactment into law of this subsection, which permit would be for issuance under Section 103, and with respect to any application for an operating license in connection with which a written request for an antitrust

[1] By Motion of November 4, 1975, Applicants also moved the Appeal Board to direct the Licensing Board to certify the question presented in the Motion now before this Board. By Order of November 5, 1975, the Appeal Board denied Applicants' Motion because it believed certification pursuant to Section 2.718(i) to be inappropriate unless and until the Licensing Board has been afforded reasonable opportunity to consider and decide the question sought to be certified. The Appeal Board perceived no compelling circumstances warranting any exception to that rule.

review is made as provided for in paragraph (3), the Commission, after consultation with the Attorney General, may, upon determination that such action is necessary in the public interest to avoid unnecessary delay, establish by rule or order periods for Commission notification and receipt of advice differing from those set forth above and may issue a construction permit or operating license in advance of consideration of and findings with respect to the matters covered in this subsection: Provided, That any construction permit or operating license so issued shall contain such conditions as the Commission deems appropriate to assure that any subsequent findings and orders of the Commission with respect to such matters will be given full force and effect.

It is Applicants' position that the application for construction of the Davis-Besse Nuclear Power Station Unit 1, which was filed on August 1, 1969, by the Toledo Edison Company and the Cleveland Electric Illuminating Company, is "grandfathered"—subject to post licensing completion of antitrust review—under that provision of Section 105 c (8).

There is no dispute that, with respect to post 1970 applications for operating licenses in connection with which a written request for antitrust review is made properly, no operating permit may issue until the completion of the antitrust review. In the case of a contested proceeding, a Safety and Licensing Board must render its findings before an operating license can become effective. The question before us is whether the status of these proceedings prior to December 19, 1970 made available to Applicants the provision for post licensing review relief rather than mandating prior completion of antitrust review as required under the amended law.

A careful reading of the language of Section 105 c (8) indicates clearly that the relief sought by Applicants is not available under Section 105 c (8). The relief encompassed by 105 c (8) relates to two types of applications. First, it applies to applications for construction permits on file at the time of enactment into law of that subsection, which permits would be for issuance under Section 103. This condition does not apply to the instant proceeding. Second, it applies *with respect to any application for an operating license* in connection with which written request or antitrust review is made as provided for in paragraph 105 c (3).[2] At the time of enactment into law of subsection 105 c (3), no such

[2] "With respect to any Commission permit for the construction of a utilization or production facility issued pursuant to subsection (b) of section 2134 of this title prior to December 19, 1970, any person who intervened or who sought by timely written notice to the Commission to intervene in the construction permit proceeding for the facility to obtain a determination of antitrust considerations or to advance a jurisdictional basis for such determination shall have the right, upon a written request to the Commission, to obtain an antitrust review under this section of the application for an operating license. Such written request shall be made within 25 days after the date of initial Commission publication in the *Federal Register* of notice of the filing of an application for an operating license for the facility or December 19, 1970, whichever is later."

application for an operating license was pending. Accordingly, the operating license for the Davis-Besse Unit was not "grandfathered" by the terms of 105 c (8).

Applicants argue that notwithstanding the lack of express authority within the written language of 105 c (8), it is necessary to construe that statute as holding that the Davis-Besse Unit 1 is "grandfathered" in order that the statute be given the effect intended by Congress. To do so, however, would be to rewrite the statute, for no such expression of congressional intent is to be inferred from the language of the statute. *Addison v. Holly Hill Fruit Products*, 322 U.S. 607 (1944). Neither does the legislative history support Applicants' position.

Applicants' argument essentially is equitable in nature in that they rely upon what they assert to be inordinate delay in processing the application as a basis for widening the boundaries of 105 c (8) to include the Davis-Besse 1 station. Congress granted the Commission no such authority nor has there been pointed out to us any indication that Congress intended the statute to be construed in the fashion Applicants suggest. Since the language of the statute is to us unambiguous, there is no need for us to become engaged in the practice of statutory interpretation as urged by Applicants:

> Judicial construction should be used not to create doubt, but only to resolve one. Where there is no doubt, there is nothing to construe .... We should not under the guise of "construction" rewrite the statute .... [*U.S. v. Concentrated Phosphate Export Ass'n.*, 273 F. Supp. 263 (S.D.N.Y. 1967)]

Two cases cited by Applicants seem inapposite or insufficiently supportive of the propositions for which they are advanced. *Hecht v. Pro-Football, Inc.*, 444 F.2d 931 (D.C. Cir. 1971) emphasizes the importance of federal antitrust policy and suggests that exemptions to that policy (while Applicants do not argue for exemption in the instant motion, they do argue for deferral of the consequences of that policy) are to be found only upon an express statement of congressional intent. *Montana Power Commission v. FPC*, 445 F.2d 739 (D.C. Cir. 1970) concerns judicial interpretation of legislative intent *where the subject of the controversy was not specifically addressed by the legislative body*. In Section 105 c (8), however, Congress did address with particularity which license applications would be subject to special "grandfathered" treatment.

The situation before us is not unlike that considered in *Unexcelled Chemical Corp. v. U.S.*, 345 U.S. 59 (1953) in which the result of explicit congressional consideration of a problem area was challenged as inconsistent with the legislative intent. There, where the precise language of the statute in question applied specifically to three causes of action, the Court was persuaded that:

> Arguments of policy are relevant when for example a statute has an hiatus that must be filled or there are ambiguities in the legislative language that must be resolved. But when Congress, though perhaps mistakenly or inadvertently, has used language which plainly brings a subject matter into a

statute, its word is final—save for questions of constitutional power which have not even been intimated here. [345 U.S. at 64]

Similarly, where Congress in Section 105 c (8) specifically considered the circumstances under which license clauses were to be "grandfathered," it is not our role to assume that Congress had in mind other unspecified circumstances.[3]

Applicants have requested certification of this issue in the event their motion is denied. It is apparent that absent Appeal Board consideration our denial would constitute a final determination in the context of the instant motion. Appeal Board review only upon completion of the antitrust hearing now in progress would frustrate the grant of effective relief in the event we are reversed. Accordingly, immediate certification pursuant to §2.718(i) of the Commission's rule is appropriate and is hereby granted.

MOTION DENIED AND CERTIFIED.

ATOMIC SAFETY AND
LICENSING BOARD

John M. Frysiak, Member

Ivan W. Smith, Member

Douglas V. Rigler, Chairman

Dated at Bethesda, Maryland
this 7th day of January, 1976.

[3]Even if we were to accept the argument that Section 105 c (8) provides authority for post licensing review, we could not grant the relief Applicants seek. Applicants fail to demonstrate that such licensing would be appropriate in this case. Before such authority could be exercised, we would be required first to satisfy the *proviso* that an operating license so issued must contain conditions appropriate to assure that subsequent findings and orders "will be given full force and effect." Applicants have not proposed interim conditions, nor is there a record upon which this Board may now determine which if any conditions might be appropriate. We are now well into the evidentiary hearing on the ultimate issues. To interrupt the hearing to receive evidence relating to appropriate interim conditions could frustrate the asserted purpose of invoking Section 105 c (8), which is to avoid unnecessary delay.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-3

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
Gustave A. Linenberger, Member
Frederick J. Shon, Member

IN THE MATTER OF

DOCKET NO. 50-334

DUQUESNE LIGHT COMPANY
OHIO EDISON COMPANY
PENNSYLVANIA POWER COMPANY

(Beaver Valley Power Station,
Unit No. 1)

OPERATING LICENSE

JANUARY 22, 1976

Upon motion by applicants requesting an operating license authorizing low power testing, Licensing Board issues an initial decision, making determinations of fact and law and authorizing the requested license, subject to certain conditions.

Motion granted.

TECHNICAL ISSUES DISCUSSED: iquality assurance.

APPEARANCES

**Gerald Charnoff**, Esq., and **Jay E. Silberg**, Esq., for Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, Applicants

**Albert D. Brandon**, Esq., and **Joseph A. Fricker, Jr.**, Esq., for City of Pittsburgh, **Pete Flaherty**, Mayor, Environmental Coalition on Nuclear Power, Friends of the Earth, *et al.*, Intervenors

**W. W. Anderson**, Esq., and **Theodore A. Adler**, Esq., Deputy Attorneys General for The Commonwealth of Pennsylvania

**Michael W. Grainey**, Esq., for The Regulatory Staff of the U. S. Nuclear Regulatory Commission

## INITIAL DECISION AUTHORIZING LOW POWER TESTING

Duquesne Light Company, *et al.*[1] (Applicants) have filed a motion pursuant to Section 50.57(c) (10 CFR) requesting authority in the form of an operating license authorizing low power testing and operation at power levels up to 5 percent of full power for the nuclear power facility which has been previously licensed to be constructed. Section 50.57(c) provides that an applicant, during the course of hearings on an application for an operating license, may make a motion:

> . . . for an operating license authorizing low-power testing (operation at not more than 1 percent of full power for the purpose of testing the facility), and further operations short of full power operation.

Hearings have been held but are not yet completed respecting the application made for a full power operating license. The motion was made for low power testing in view of the fact that additional evidence is yet to be prepared and presented at a further evidentiary session. The Regulatory Staff supports the Applicants' motion. The intervenors collectively withdrew all contentions on radiological safety. The City of Pittsburgh, an intervenor, however, opposes the motion upon the matters raised by the Board,[2] and, accordingly, Section 50.57(c) provides, in the event of opposition to a motion for low power testing, that:

> Prior to taking any action on such a motion which any party opposes, the presiding officer shall make findings on the matters specified in paragraph (a) of this section as to which there is a controversy, in the form of an initial decision with respect to the contested activity sought to be authorized.

---

[1] Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company are the joint applicants for an operating license.

[2] The Board's inquiries were in reference to serious safety concerns and were made in accordance with the Commission's decisions *In the Matter of Consolidated Edison Company of New York* (8 AEC 7) and 10 CFR 2.760(a).

The findings that must be made in reference to Applicants' motion are enumerated by Section 50.57(a), as follows:

(1) Construction of the facility has been substantially completed, in conformity with the construction permit and the application as amended, the provisions of the Act, and the rules and regulations of the Commission; and

(2) The facility will operate in conformity with the application as amended, the provisions of the Act, and the rules and regulations of the Commission; and

(3) There is reasonable assurance (i) that the activities authorized by the operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the regulations in this chapter; and

(4) The applicant is technically and financially qualified to engage in the activities authorized by the operating license in accordance with the regulations in this chapter; and

(5) The applicable provisions of Part 140 of this chapter have been satisfied; and

(6) The issuance of the license will not be inimical to the common defense and security or to the health and safety of the public.

Since the intervenors collectively withdrew all contentions on radiological safety (and all environmental matters in controversy were determined by Licensing Board decision, 7 AEC 711, 890, and Appeal Board decision, 8 AEC 829), there is not in this proceeding any controversy, in the strict sense of the term. The Board, however, has raised concerns on all of the foregoing listed items, as enumerated in 10 CFR 50.57(a), except item (5), and, in view of such concerns, the Board has made determinations as required by Section 50.57(a).

The proceeding in reference to the application for a full power operating license for the designated Beaver Valley Power Station, Unit No. 1, has been conducted in two parts. The first part, involving environmental considerations, was combined with that portion of the construction permit proceedings involving environmental issues related to a proposed adjacent nuclear power facility designated as Beaver Valley Power Station, Unit No. 2.[3] The environmental considerations and determinations for this Beaver Valley Unit No. 1 are reflected in the Initial Decision and Appeal Board review, to both of which reference is made and which are also incorporated herein without particular

[3]The hearings pertaining to Unit No. 2 have been completed and the construction permit has been authorized and issued as CPPR-105 following the Initial Decision, dated April 25, 1974.

detail. This Initial Decision, therefore, respecting this motion for the low power testing involves matters of radiological health and safety, with specific reference to quality assurance and quality control matters raised by the Licensing Board.

The Beaver Valley Power Station, Unit No. 1 (hereinafter Unit 1) was authorized for construction by permit identified as CPPR-75, which was issued June 26, 1970. The construction is located on the south bank of the Ohio River in Shippingport Borough, Beaver County, Pennsylvania. This nuclear power facility will utilize a closed cycle, pressurized water nuclear reactor as the source of heat for generating electricity.

Pursuant to the Atomic Energy Act of 1954,[4] as amended, the National Environmental Policy Act (hereafter NEPA), and NRC (formerly AEC)[5] regulations, the Commission published on November 10, 1972, a Notice of Receipt of Application for Facility Operating License; Notice of Hearing pursuant to 10 CFR 50, Appendix D, Section B; Consideration of Issuance of Facility Operating License and Opportunity for Hearing (37 *FR* 23935). The Notice set forth the requirements to be met prior to the issuance of the facility operating license and noted that Unit 1 was subject to the provisions of Section B of Appendix D to 10 CFR Part 50, which established procedures applicable to the review of environmental considerations pursuant to NEPA for facilities for which construction permits were issued between January 1, 1970 and September 9, 1971. The Notice provided that any person whose interest might be affected by the proceeding could, within 30 days after publication of the Notice, file a petition for leave to intervene with respect to the issuance of the facility operating license or with respect to the continuation, termination, modification or conditioning of Construction Permit No. CPPR-75.

Parties to the proceeding are, besides the Applicants and the Regulatory Staff, the Commonwealth of Pennsylvania, and Intervenors, City of Pittsburgh, Pete Flaherty (Mayor of the City of Pittsburgh), David Marshall, Friends of the Earth, Environment Pittsburgh, and Beaver County Citizens Corps.[6] The hearing in which all intervenors actively participated involved environmental issues, and, by stipulation, the intervenors withdrew their originally filed contentions on radiological safety matters.

Further, in accordance with the Atomic Energy Act and the Commission's regulations, and on the basis of the environmental evidence adduced during the combined proceeding, the Board has heretofore concluded and determined that:

---

[4] Hereinafter: the Act.

[5] NRC is the U. S. Nuclear Regulatory Commission, and AEC is the U. S. Atomic Energy Commission.

[6] Ernest J. Sternglass was permitted to intervene, but he later withdrew as a party to the proceeding; however, he served as a principal witness for the other intervenors.

(a) The environmental review conducted by the Commission's Staff and set forth in the Staff Final Environmental Statement has been adequate;

(b) The requirements of Section 102(2)(C) and (D) of NEPA and Appendix D to 10 CFR Part 50 have been complied with in this proceeding;

(c) Having considered and decided all matters in controversy among the parties and having independently considered the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken, the Board has determined that the appropriate action to be taken is the continuation of the construction permit for Unit 1.

During the course of the mandatory safety hearings required for Unit 2, certain questions regarding the quality assurance program for Unit 1 came to the Board's attention (7 AEC 750). Although the Board found for that construction permit proceeding reasonable assurance that the quality assurance program for Unit 2 would be adequate, it decided to raise, *sua sponte*, certain questions regarding functioning in practice of the quality assurance program for Unit 1. Specifically, the Licensing Board, at a prehearing conference held on December 19, 1974 and in correspondence to the parties, raised questions about the number of items of noncompliance which occurred during the construction of Unit 1, how long these items were outstanding and how they were resolved, how many of the construction violations involved physical rework to resolve, the function of the Office of Inspection and Enforcement (OIE) in the onsite inspection of facilities, the role of the Office of Inspection and Enforcement in providing input to licensing on the prior experience of utilities, what factors should be considered in determining whether construction should be halted or a license suspended, what programs exist for determining qualifications of an Architect/Engineer, and a status report on the OIE review of preoperational and operational quality assurance.

On May 13 and 14, 1975, an evidentiary hearing was held to inquire into the questions raised by the Board. The City of Pittsburgh, one of the intervenors at the environmental hearing, appeared at this hearing, presented no witnesses but conducted some cross-examination of witnesses presented by Applicants and the Staff. The City of Pittsburgh also later filed Proposed Findings of Fact and Conclusions of Law.

## QUALITY ASSURANCE PERFORMANCE DURING CONSTRUCTION

In response to the Licensing Board's concerns about the number of items of noncompliance which occurred during construction of this facility, the Staff presented all of the inspection reports, as well as a written summary of the

reports. This summary identified many matters which were considered to be items of noncompliance with NRC requirements and a larger number of items which, while not identified as items of noncompliance, were referred to in the inspection reports as "outstanding items". Outstanding items are those items which, while not items of noncompliance as such, require additional information and follow-up by the OIE inspectors to resolve the matter. The summary provided a brief identification of each item of noncompliance or outstanding item and the means by which the matter was resolved.

During the implementation of the quality assurance program for construction, the Staff became concerned with the large number of violations, especially in 1973 and early 1974, the repetition of certain items of violations, and the length of time required to correct violations. The Commission's Office of Inspection and Enforcement issued a Notice of Violation, by letter dated May 24, 1974 to Duquesne Light Company, and discussed these concerns with Duquesne Light Company at a meeting held on June 20, 1974. As a result of these violations, OIE increased its inspection and surveillance of the quality assurance program implementation. Subsequent to the issuance of the Safety Evaluation Report, in which the Staff's concerns with Applicants' performance during construction were summarized, the Applicants made significant progress in resolving violations and deficiencies, as well as a significant reduction in unresolved items. Based on the results of recent inspections, OIE ceased its program of increased inspection and surveillance and returned to a program of normal inspection and surveillance intervals. Based upon their review of Applicants' quality assurance program for construction, as well as the actual construction of the Beaver Valley Unit 1 facility, the Staff witnesses concluded that: subject to the satisfactory resolution of the few open items remaining in the summary analysis, the Applicants have satisfactorily implemented their quality assurance program for construction of this facility; the Applicants have constructed this facility to date in conformance with the requirements of Appendix B to 10 CFR Part 50; and there is reasonable assurance that the balance of the facility will be built in conformance with Appendix B to 10 CFR Part 50.

Concerned about the manner in which these many items had been discovered (*i.e.*, by NRC inspectors), the Licensing Board expressed an interest in the degree to which Applicants relied on NRC inspections to assure quality, and how the results of NRC[7] inspections compared with those of Applicants' own program. Applicants' witnesses testified that their quality assurance program is designed to be self-sufficient, in and of itself, to provide necessary elements for assuring a quality facility, but that Applicants take full cognizance of NRC inspection findings, with participation by Applicants' top management, and follow-up with

[7] NRC and AEC are used interchangeably herein.

investigations and corrective and preventive actions just as with its own internal quality assurance program audits. Because NRC inspections are more in the nature of quality assurance audits than day-to-day quality control inspections, and because audits involve a degree of randomness in both timing and subject matter, an NRC audit is not likely to yield the exact same findings as an audit conducted under the Applicants' quality assurance program. However, a categorization and comparison of quality assurance program audit results with NRC inspection results show a rough correlation which indicates that the quality assurance program audits have been sensitive to the same types of items that the AEC and NRC audits have revealed, thus providing some indication that systematic quality assurance problems have not been overlooked by Applicants.

Applicants' witnesses also assert that the Applicants' inspection program embodies certain sequential features in which safety related items are inspected several times before final acceptance. They thus assert that many of the items that NRC inspections discovered would have been found by Applicants at a later stage. No exact accounting was given, however, of the fraction of the violations that would have been expected to be discovered in this manner. Applicants further testified that they themselves began to recognize certain problems with the quality assurance program which were causing them to experience the increasing number of program nonconformances in 1973 detected by NRC inspectors and by Applicants and Stone & Webster through their own verification programs. This resulted in major changes in the quality assurance program for design and construction. The program reevaluation revealed to Applicants' management that perhaps the greatest contributor to the number of program nonconformances was inadequate education of personnel as to the importance of knowing and following required procedures without deviation. Applicants, in conjunction with the reorganization of their quality programs, greatly intensified their program for imposing strict procedural controls over the working force at the site and implemented new and more extensive training and orientation sessions. Applicants' witnesses testified that the efforts to better educate all personnel in required procedures and to emphasize the importance of adhering to procedures has produced an improvement in quality of work. Oral testimony by four construction workers engaged in welding and electrical operations at the site, in response to questioning by the Licensing Board, produced an impressive degree of confidence in the capabilities of the work force and their attitudes toward the importance of producing quality work, as well as confirmation that Applicants are insisting on strict adherence to procedural requirements in the construction of the facility.

The Licensing Board also expressed concern that the frequency of audits conducted by Applicants' quality assurance department showed a significant decrease during 1973. Testimony indicated that Applicants undertook a major reorganization of their quality assurance program in early 1973 to better

conform to evolving regulatory requirements, and that audit activities by Applicants decreased during the reorganization because of the additional demands on Applicants' personnel. In recognition of the problem, Applicants retained a consultant organization to assist them in the quality assurance auditing, including the development of an effective audit format, the auditing of Stone & Webster and Westinghouse, and the evaluation of the adequacy of the current quality assurance programs. With the changes having been completed in Applicants' quality assurance organization, intensive auditing was undertaken by Applicants during the last quarter of 1973 and continued thereafter. The consultant's studies concluded that during the period of decreased audit frequency by Applicants, the quality level of equipment and construction was maintained due to the continuation of first line quality assurance activities (including auditing) by Stone & Webster and Westinghouse.

During the course of the project, Applicants have made numerous significant improvements in the quality assurance program implemented for the construction of the facility:

- Applicants' quality assurance staff and the Stone & Webster quality control staff were significantly increased.
- Applicants and Stone & Webster engaged various consulting organizations to assist in revising and implementing quality assurance and quality control systems and procedures.
- Audit activity by Applicants was significantly increased from its 1973 level.
- Training and educational programs for project personnel were sharply increased.
- Stone & Webster made a comprehensive revision of its records management system to improve the identification, traceability, and retrievability of project records.
- Applicants are conducting a program to check and reverify all quality assurance records for the project, including a 100 percent recheck of all vendor-supplied information, inspection reports and installation records.
- Improved document control procedures and instructions were established at the project site.
- Organization changes were made which resulted in marked improvement in the reaction time of Applicants to nonconformances detected by NRC inspections.

In response to a Licensing Board inquiry as to the existence of any evidence of improvement in Applicants' quality assurance program as a result of the changes that were made, one of Applicants' witnesses testified that in many cases the implementation of the change itself is evidence of improvement (*e.g.*, increased audit activity, increased training and educational activity, 100 percent reverification of safety-related records, etc.). Beyond that,

he presented both qualitative and quantitative indications of substantial improvement. Qualitatively, Applicants believe that the program improved significantly as the more complex tasks of pipe installation, electrical work, and instrumentation and control work came to dominate the work effort at the site. Quantitatively, Applicants allege that these conclusions tend to be confirmed by the data on audit activities and violations detected. Audits by Applicants, Stone & Webster, and NRC increased significantly in 1974 over those of 1973, yet the relative frequency of audit nonconformities decreased dramatically in spite of an atmosphere of increased effort and concern in the conduct of quality assurance activities.

The Board recognizes the ambiguity inherent in a decrease of detected violations: *viz.*, that it is possible that the inspectors are missing more items. This is simply the reverse of the logic offered by Applicants' witnesses when the Board expressed its concern about the large number of violations detected and the witnesses replied that that simply indicated an efficient inspection system. However, a drop in nonconformities coupled with an increased effort certainly suggests improvement. Further, witnesses for both Applicants and Staff agreed that Applicants' quality assurance program is generally adequate to give reasonable assurance that the facility has been constructed in such a manner as to enable safe operation. One of Applicants' outside consultants, whose organization conducted a comprehensive audit and appraisal of the quality assurance program, testified that:

> Overall, the quality assurance program used for the Beaver Valley Unit 1 nuclear power station is very good and will result in assurance that the plant will be a safe, high integrity unit.

In support of its conclusion that, subject to the favorable resolution of certain enumerated items,

> ... there is reasonable assurance ... that the activities authorized by the operating license can be conducted without endangering the health and safety of the public ...

the Staff stated that, on the basis of its evaluation and inspection of Applicants' quality assurance program for construction and the actual construction of the facility, Applicants (subject to resolution of certain enumerated inspection items) have satisfactorily implemented their quality assurance program for construction of the facility, the facility has been substantially completed in conformity with the construction permit, the application, and NRC requirements, and that there is reasonable assurance that the balance of the facility will be completed in accordance with NRC requirements, including the NRC quality assurance criteria specified in Appendix B to 10 CFR Part 50. The Licensing Board concurs in this finding.

At the end of the separate evidentiary sessions, which were held in May, October, and December 1975, the parties filed proposed findings of fact related to the subjects considered at the previous evidentiary session. In view of the often separate subject considerations at the sessions, rulings are made in this decision as the separate subjects are dealt with.

Certain proposed findings of fact submitted by Intervenor, City of Pittsburgh (Pittsburgh), related to the construction of the plant. While Pittsburgh did not present evidence in this phase of the hearings, it claims to discern in the evidence presented by Staff and Applicants certain facts which would militate against a positive finding on the safety of the plant. Pittsburgh's findings 1 through 4 fundamentally note that the NRC Staff and OIE have discovered deficiencies in Applicants' quality assurance program, a fact which the other parties admit. As reflected by the findings by the Board set forth above, the Board concludes that reliable, probative and substantial evidence has been presented to show that these deficiencies have been corrected. Pittsburgh's proposed findings 1 through 4 are rejected because of lack of adequate support.

Pittsburgh's findings 5, 6 and 7 are to the effect that Applicants' audit program was deficient during 1973, that Applicants hired outside help for this function but have now proposed to dispense with such help. The Board finds convincing evidence that Applicants' in-house program has improved to the point where this action is acceptable. Pittsburgh's findings 5, 6 and 7 are rejected as irrelevant to the issue of the present status of the plant construction.

Pittsburgh's findings 8 through 11 allege that Applicants have no programs to encourage employees toward spontaneous discovery of defects or suggestions for improvements. While this allegation is apparently correct, the Board rejects those findings 8 through 11 for the reason that there is no specific requirement for such a program, either in the Commission's regulations or in the generally envisioned behavior of a "reasonably prudent" constructor of nuclear power plants.

Pittsburgh's proposed findings 12 and 29 note that the repair of Beaver Valley Unit 1 cracked nozzle safe ends was unresolved as of the date of the OIE Inspection Report RO 75-09. This particular matter was of concern to the Board, and at the May 14, 1975 session of these hearings, the Board requested clarification of the position of the Advisory Committee on Reactor Safeguards (ACRS) with respect to the safety of these safe ends as presently repaired. The Staff attorney sent to the Board the ACRS reply concerning the Beaver Valley Unit 1 safe end repairs. The December evidence respecting nozzle safe ends shows that inservice inspections are to be performed in accordance with the ASME code as augmented and accelerated for the Unit 1 nozzle safe ends. This augmentation includes detailed requirements for both the instruments and the qualifications for personnel conducting the inspections. To assure accuracy of measurements, volumetric instrumentation and data acquisition equipment are subject to periodic maintenance and calibration programs to ensure conformance

with manufacturers' specifications. Surface (liquid penetrant), visual and volumetric (ultrasonic) examinations will be performed. The Applicants assert that the sensitivity of the instrumentation is such that a flaw can be detected long before it could reach critical size. The Board views the expanded inspection program as dispositive of this matter, finds that the safe ends matter has been resolved satisfactorily, especially in view of the evidence adduced at the December 1975 session, and therefore rejects Pittsburgh's proposed findings 12 and 29 as irrelevant and inapplicable.

Pittsburgh's proposed findings 13 through 34 (excluding findings 29 and 31) relate primarily to operating phase matters and are dealt with *infra*. Proposed finding 31 alleges that compliance with new Appendix I to 10 CFR Part 50 has not been demonstrated, but that Appendix specifically exempts from present demonstration of compliance the plants whose construction permit applications were received before 1971, and, therefore, proposed finding 31 is rejected as inapplicable.

Pittsburgh's proposed finding 35 concerns eighteen "unresolved items" listed on Staff documents concerning quality assurance items of noncompliance. These items were not all resolved as of the May 14, 1975 hearing, but two later evidentiary hearings have developed the data to permit the Board to find as the Board does find that these matters have now been satisfactorily resolved. Pittsburgh's proposed finding 35 is rejected as no longer pertinent.

Throughout the Board's scrutiny of Applicants' construction phase quality assurance program, there has been an implied duality of intent: first, to assure that construction has been guided by adequate quality assurance to produce a high quality plant; second, to establish whether the history of the program suggests that it was founded upon corporate behavior of a sort that gives assurance of quality in carrying out future operation of the plant. This second aspect was the subject of proposed findings by all parties, Staff and Applicants proposing that the Board make a finding that the operations quality assurance program could be expected to be adequate, and Pittsburgh proposing that the contrary be found.

## REVIEW OF QUALITY ASSURANCE FOR OPERATIONS

Staff and Applicants presented evidence bearing upon the quality assurance program for operation of Beaver Valley Unit 1 including the preoperational and startup phases.

The Applicants' Quality Assurance Program for Operation for Beaver Valley Unit 1 was contained in Appendix A of the Final Safety Analysis Report (FSAR). The Staff's review of the Quality Assurance Program was summarized in Section 17 of the Safety Evaluation Report. Applicants were required to significantly upgrade their quality assurance program description from that

originally presented in the FSAR for Unit 1, and the Staff's final review and evaluation is based on a revised and updated quality assurance program description as amended in the FSAR. Under the quality assurance program, the Quality Assurance Manager reports to the Vice President of Engineering and Construction and/or the President. The Staff found that the Quality Assurance Manager has sufficient independence and authority to effectively carry out the quality assurance program during plant operation, maintenance, modification/repair, and refueling without undue influences from the Station Operations organization which is responsible for costs and schedules. Sufficient independence also exists between the Quality Assurance Supervisor and the Station Superintendent such that the execution of the quality control program and the attention to quality problems and their resolutions will not become subordinated. The Staff concluded that the quality assurance organization, as ultimately identified and described in the amended FSAR, is acceptable and complies with Criterion I of Appendix B to 10 CFR Part 50.

Applicants' quality assurance program description contained in the FSAR provides for controlled written policies, procedures, and instructions governing the implementation and control of quality related activities associated with the operation of Unit 1, which includes maintenance, modification/repair, and refueling. The quality assurance program requires that indoctrination and training sessions be established and conducted for those personnel performing quality related activities to assure that they are knowledgeable of the quality assurance program procedures and requirements and become proficient in implementing these procedures. The quality assurance program also provides for properly controlled documents covering the inspection and verification operations for refueling and for maintenance, modification, and repair of safety related structures, systems, and components. The quality assurance program requires that the quality verification and inspection of quality related activities be performed by individuals or groups independent of those individuals or groups directly responsible for performing the work being verified or inspected. Applicants' quality assurance program also provides for the collection and retention of records that define and attest to the quality of safety related structures, systems, and components throughout operations, maintenance, modification/repair, and refueling.

Applicants require comprehensive scheduled audits to be performed by qualified quality assurance personnel independent of those individuals or groups in the area being audited. The audits are required to be in accordance with pre-established written procedures and include the verification and evaluation of procedures and quality related activities to assure that they are meaningful and effective. The quality assurance program requires audit results and corrective actions to be documented and reported to responsible management. Applicants' Quality Assurance Department audits are supplemented by audits conducted by the Offsite Review Committee, which also performs audits within the Operations

Division to assess the technical adequacy of procedures as well as their implementation. The quality control Supervisor is responsible for auditing the activities to evaluate and determine the effectiveness of the implementation of the quality control program. In addition, Applicants' quality assurance program will be audited annually by the Vice President of Design and Construction and the Vice President of Operations to assess the status and adequacy of the program.

As a result of a detailed review and evaluation of the Applicants' quality assurance program description in the FSAR, as amended, the Staff concluded that the program provides sufficient procedural requirements and controls necessary to demonstrate compliance with each of the criteria of Appendix B to 10 CFR Part 50. The Licensing Board concurs and finds that the program is therefore acceptable for control of the operation, modification/repair and refueling activities of Beaver Valley Unit 1.

The Staff Supplement to the Safety Evaluation Report indicated that new guidance in three documents relating to quality assurance activities for the operations phase of nuclear power plants had been issued.[8] The Staff requested the Applicants to submit a commitment in the FSAR to follow the guidance in these three documents where appropriate. The Applicants complied generally with this request. However, the Supplement noted that there were several items for which a commitment was not made to meet all the requirements of the WASH documents. The Staff in its Supplement requested the Applicants to clarify the status of these remaining items. At the evidentiary hearing, the Applicants indicated that they intend to commit themselves to the provisions of all three documents and that a revision to the FSAR had been filed shortly before the hearing to indicate this. In view of this commitment, the Board finds reason to believe that the program described will be properly interpreted and followed.

During the past two years, OIE has conducted inspections bearing upon preoperational testing and the startup phase of operations. These inspections began at Beaver Valley Unit 1 when construction was about 75 percent complete. Inspections in the past year have averaged once a month, and this frequency will increase immediately before fuel loading and in the two months following it. Inspection areas include the following:

1. Preoperational testing
2. Fuel loading
3. Initial Criticality and Low Power and Power Ascension Testing
4. Operations (procedures and training)

[8] The documents are: WASH-1248, "Guidance on Quality Assurance Requirements During the Operations Phase of Nuclear Power Plants"; WASH-1309, "Guidance on Quality Assurance During the Construction Phase of Nuclear Power Plants"; and WASH-1283, "Guidance on Quality Assurance Requirements During Design and Procurement Phase of Nuclear Power Plants–Revision One".

5. Quality assurance for operations
6. Emergency plan and implementation
7. Security plan and implementation
8. Independent measurements
9. Environmental monitoring
10. Waste disposal systems
11. In-plant radiation protection
12. Special nuclear material accountability.

In Staff's testimony, a precise status of each of the twelve inspection areas was provided. OIE inspection program is in the beginning phase of its most active period for preoperational testing and initial startup phases. Fuel loading at the time of the hearing was first estimated by Applicants to be August 1, 1975, which the Staff considered optimistic. Testimony indicated that the final two to three months prior to fuel loading is a very active period for both Applicants and the OIE inspectors with respect to preoperational testing and initial startup. The inspection findings during this period determine whether the OIE position statement will show that the Applicants have met their commitments in the Safety Evaluation Report and have adequately implemented their quality assurance program. Currently, most, if not all, procedures have been written, check-out tests have been performed or are in progress, and the test program review by the OIE staff is complete. OIE staff has also completed the witnessing of tests and the verification of the existence of approved procedures.

For the OIE review regarding fuel loading, Applicants have defined 44 fuel loading procedures. A minimum of one preoperational inspection is required. For operations procedures, four inspections have been held.

The quality assurance manuals have been reviewed by OIE, which has concluded that the quality assurance manuals meet the intent of 10 CFR Part 50, Appendix B, and the quality assurance plan.

Emergency plans and emergency plan implementation have also been reviewed and found acceptable by the Staff and no deficiencies therein have been alleged by the intervenors. The Board accepts the Staff conclusions in this regard.

Environmental monitoring programs have been reviewed and found adequate. Specifically, the preoperational monitoring program was fully implemented, the administrative control of the program is adequate with a qualified staff to implement the anticipated operational environmental monitoring program, the analytical capabilities of the contractor are at an acceptable level, the sampling and analytical procedures meet current guides and accepted practices. Nevertheless, both Staff and Applicants urged in proposed findings that operation be conditioned upon fully completed preoperational monitoring. The Board agrees and has so conditioned this authorization.

The organization and staff responsibilities were found to be consistent with the current FSAR, Chapter 12, and the required personnel have been added. The training was reviewed against Applicants' FSAR, ANSI N 18.1, Regulatory Guide 8.10 and the requirements of 10 CFR Part 19.12. The review, limited to radiation safety training and technician training, indicated consistency with the requirements specified in the referenced documents. Design features, including shielding and equipment locations, were in accordance with Regulatory Guide 8.8 and consistent with 10 CFR Part 20. Instrumentation and equipment for portable and fixed radiation monitoring were reviewed with respect to the FSAR, ANSI N 13.1 and Regulatory Guide 8.3 and 8.5.

The OIE inspectors also gave an assessment of the performance of Applicants to date in the preoperational and operational tests. The testimony indicated that Applicants' performance has been acceptable. The Licensing Board concurs with the OIE inspector's assessment and the Board's questions on this issue have been satisfied. One additional element was considered which related to provisions made for the contingency of a strike by personnel during operation. Applicants made a satisfactory evidentiary presentation for this possibility, which included provisions for the presence of qualified personnel in order to permit continued operation or a safe shutdown of the plant.

In view of the above findings, the Board further finds that Pittsburgh's proposed findings 13 through 28, 30, and 32 through 34 are not supported by reliable, probative, and substantial evidence and therefore are rejected.

## REACTOR VESSEL SUPPORTS

Early testimony had indicated that the original analysis of the forces on the pressure vessel supports during a LOCA caused by a break in a cold leg near the vessel had not included certain asymmetric forces arising from several sources. These included jet reaction from the broken pipe, a depressurization wave crossing the core barrel, and asymmetric pressurization of the vessel cavity. Historically, these forces had been ignored as inconsequential, but certain analyses had more recently suggested they might be significant. At the October hearing, the Board was informed that the time of peaking of each of these forces was critical and that, while no precise analysis had been completed, it appeared that the forces would not be in phase and their effect would be small. The December testimony indicated that Applicants' analysis, although not quite complete, showed that only an insignificant motion of the pressure vessel could arise from these forces. Staff's review of this analysis, while also incomplete, supported Applicants' result so far as it went. Applicants have already installed cold leg bumpers for the purpose of decreasing the effects arising from this

source. The Staff experts believe that, with these modifications, stresses on the vessel supports may actually prove to be less than those indicated in the early analyses which omitted the asymmetric forces.

The Staff's position is that, considering the results of the Applicants' analysis and the advanced state of the Staff's review of that analysis, and considering also the extremely small probability of a LOCA arising from a break at the specific location required for these effects, the operation of the reactor at full power pending completion of the studies is not inimical to the health and safety of the public. The Board concurs.

## ELECTRICAL EQUIPMENT QUALIFICATIONS

The Board made inquiry respecting a Staff report that testing programs to qualify electrical equipment within the Westinghouse scope of supply, which had previously been found acceptable, had been determined to have certain deficiencies that must be corrected to meet the Staff's current standards. The environmental stresses for which this equipment may not be properly qualified are the stresses associated with the temperature, pressure, chemistry and radiation environment present in the containment during the post accident conditions.

The Staff presented testimony describing the three items of equipment involved in the environmental qualification program which relate to Beaver Valley Unit No. 1 (pressure and differential pressure transmitters, valve motor operators, and solenoid valve operators). As part of the qualification program, the solenoid valve operators have been subjected to a failure mode analysis by Westinghouse showing that they will satisfactorily perform under design basis environmental stresses. Staff review confirms this study. Valve motor operators were tested for radiation effects in 1972. While the Staff review is not yet completed, these devices have been successfully tested at radiation exposure levels up to $10^8$ rads, and it is the Staff's judgment that the valve motor operators are adequately designed to withstand radiation exposures. The qualification program also includes the pressure and differential pressure transmitters which have undergone extensive testing under the environmental stresses which would be produced by post accident hostile environments. The Staff, however, has insisted that this equipment be qualified for inadvertent containment spray prior to safety injection and/or containment isolation. A Westinghouse materials analysis shows that the chemicals in the containment spray will have a negligible effect on this equipment. Although verification testing has not yet been performed, the materials analysis, prior successful testing, and low probability of the sequence of events which the verification testing will cover warrant the conclusion that operation of Unit 1 pending completion of the tests is appropriate.

The Staff witness also testified that three pieces of equipment (nuclear instrumentation rack, pressure and differential pressure transmitters, and 7100 Series process instrumentation) were being subjected to additional seismic testing. This equipment has already successfully completed extensive seismic testing. The additional testing is being carried out to remedy minor deficiencies, primarily involving documentation. The Staff's judgment is that the items will successfully complete the additional testing. Two other items, the stack gas detector and the radiation monitoring cabinet, although originally listed by the Staff as part of the seismic testing program, are in fact not safety-related (*i.e.*, not necessary to bring the plant to a safe shutdown condition) and therefore not required to receive seismic qualification.

In addition to the foregoing, the Staff considered the extensive previously completed environmental and seismic test programs; the limited number of remaining test program deficiencies, and the low probability of occurrence of those incremental environmental stresses which might affect the operability of the components involved in the supplemental program in the period of time required for resolution. As a result therefrom, the Staff has concluded, and the Licensing Board agrees, that plant operation is acceptable pending such resolution.

## QUALITY ASSURANCE PREOPERATIONAL AND INITIAL STARTUP PHASES

The Board made inquiry respecting the inspection program conducted during the preoperational testing and startup phases. In view of the fact that evidentiary hearings in this proceeding have been held in sessions in May, October and December, a comparison of results of inspection has been possible as well as an evaluation of the progress toward improvement. The Staff in its testimony provided the inspection reports that reflected Applicants' responses to the items reflected in the reports. Each session of evidentiary hearings provided an updating of the construction work and the procedures being developed for the approaching preoperational and initial startup phases. The OIE has increased the number of its inspections of the construction work being concluded and the reviews of the preoperational procedures. The Board is favorably impressed with the increased activity by the OIE in this regard. At the same time, however, the Board has been concerned with the repetition of discovered variances from requirements reflected in the construction work. With this in mind, the Board asked the Applicants' Vice President for some assurance that during the proposed operation of the Beaver Valley Unit 1 similar repetitions of variances from operating requirements will not occur. The Board believes the answer to that inquiry reflects a vital key in these quality assurance and quality control considerations. The Vice President answered:

. . . during the operational phase, all of our people have better control . . . .

The Board is inclined to agree that better control is possible when the personnel involved all report directly to the responsible Licensee organization.

Inquiries by the Board in this regard were made with the thought that the Commission itself may desire to consider certain aspects of this contractual relationship as policy matters. A matter to be considered might be whether the contracting organizations prove themselves well enough qualified to be undertaking nuclear power facility construction. The record of violations and variances from construction requirements, from one plant construction undertaking to another, may reflect the problem indicated by the answer of the Vice President: that during construction, the utility applicant and intended operator of a facility apparently cannot achieve the desired control over construction personnel to prevent the occurrence of variances from requirements for good quality construction.[9] The need for improvement in quality control during the period when contractor construction personnel are involved may be discerned from other public records of the Commission. The hearings for operating licenses, with construction substantially completed, are replete with evidence of efforts by the OIE, as well as utility applicants for licenses, to achieve good construction. The penalty for less than complete conformance with construction requirements is generally a disadvantage for the utility applicant, with its responsibility to the public and the rate payers for the lowest reasonable cost of construction. The Commission may desire to examine whether penalties or assessments of costs for re-doing the work, such as further welding and the like, should be borne by the construction contractor. Since as long ago as 1966, the Atomic Energy Commission, speaking through one of its Commissioners, has urged high quality construction work. The Nuclear Regulatory Commission may desire to review the construction record since that time.

The Atomic Safety and Licensing Board concurs with the Staff conclusion that Applicants' performance and progress with preoperational testing and initial startup have been satisfactory. The Board finds that Applicants' management personnel have a sincere and continuing concern in the endeavor to achieve good quality performance and that such an attitude by Applicants provides reasonable

---

[9] In the Beaver Valley Unit No. 2 decision, the Appeal Board stated in reference to the Licensing Board's discussion of the repeated violations of construction requirements by a contractor:

> The violations found by the AEC inspectors involved errors of a type often encountered on large construction projects . . . . [8 AEC 837].

It is the frequency of such errors at nuclear power facilities, aside from unrelated errors that may occur at other construction projects, that is considered by the Licensing Board to be a matter that the Commission, as the maker of policy, may desire to consider.

assurance that the Beaver Valley Unit 1 can be operated without undue risk to the health and safety of the public.

Certain additional specific matters were considered by the Board: (1) possibility of steam generator tube corrosion (which is not a significant consideration for low power testing), (2) certain emergency power components and safety injection system accumulators, (3) adequacy of missile protection for the excess let down heat exchanger, (4) procedures for calibrating the measuring and testing equipment, and (5) reactor trip system.

The Board will convene a further evidentiary session when the Staff has completed its study for the Beaver Valley Unit 1 facility on the measures to avoid steam generator tube corrosion, but the Board believes the postponement of that subject should not delay the consideration of the requested low power testing. The very low fission product inventory, the short operating time, and the generally less stressful environment acting on the tubes, all combine to assure that interim low power operation is not inimical to the health and safety of the public. The Board's concerns on the other items listed in the preceding paragraph have been resolved by the Staff evidence reflecting their analyses of the problems and their judgment and the satisfactory conclusions reached after their inspections.

## AUXILIARY RIVER WATER SYSTEM

A further inquiry by the Board was related to the auxiliary river water system. This system was proposed by Applicants after the Staff indicated that further redundancy for safe shutdown was needed as a backup system in case the main intake structure were to be damaged by a postulated accident which envisioned a runaway river barge that would also explode. Applicants, in a consideration of alternatives, designed an auxiliary river water system and the Staff has agreed that the objective of the required redundancy has been met. The Staff proposes that such a river water system be installed by December 31, 1976. That extension of time for construction is justified, in the Staff's view, because an alternative method exists to cool the plant safely.

The Staff has also concluded that the probability of occurrence of a barge accident of sufficient severity to disable the primary river water intake structure would lie between one in 100 thousand and one in 100 million, for one year of plant operation. The Staff has determined that such a risk, for at least one year of full power operation, is acceptably low and, in so doing, has given credit to the fact that there is an alternate method of cooling down the plant, which further justifies the decision to allow the plant to operate until the end of 1976. Similarly, the Applicants have indicated that full power operation without such an auxiliary system can be permitted until the end of 1976 and that such a

conclusion indeed could be independently based upon the fact that alternate means already exist to bring the plant to a safe shutdown condition in the event of a disruptive barge accident. The Board has not, however, been able to identify an adequate description of the alternate cooling method in the record of this proceeding. Further inquiry into this matter will be required before full power operation is authorized.

Insofar as low power (up to 5 percent) operation is concerned, the Staff has testified that there is no significant difference in need for the auxiliary intake system between low power and full power operation. The Board has not identified the evidence that supports such a position. At the same time, the Board finds no basis for assigning any greater need for an auxiliary intake system for low power operation as compared with full power operation. The Applicants' motion for low power testing indicates—out of seventy proposed tasks—one task requiring operation at one percent of full power and two tasks requiring operation at less than 5 percent of full power. The Applicants have testified that the duration of operation at up to 5 percent of full power will be less than that required for the fission product inventory of the core to build up to 5 percent of its equilibrium full power value. This testimony regarding the accidents occurring at power levels not exceeding 5 percent has been reviewed by the Board. The consequences have been found to be acceptable, even in the absence of an auxiliary river water system. Based upon the foregoing, the Board finds that the proposed limited low power operation of the Beaver Valley Unit 1 facility does not constitute an undue risk to the health and safety of the public and is acceptable insofar as conducting such operations without an auxiliary river water system is concerned. The Board further finds that prior to approving full power operation without such an auxiliary system, further clarification will be required.

## HYDROGEN RECOMBINERS

The Board also inquired about the hydrogen recombiners. The Staff provided evidence as an addition to the Staff's Safety Evaluation Report Supplement No. 2 by stating that the Beaver Valley Unit 1 recombiners now meet both the 1971 and 1975 IEEE standards. The Board concurs that such compliance is adequate for this proceeding. The Applicants add that there is a hydrogen purge system available as a backup safety measure.

## MOTOR OPERATED VALVES

Other matters reviewed by the Board related to certain motor operated valves pertinent to the emergency core cooling system (which valves now meet the

single failure criteria). The Staff also stated that operation of the facility with one reactor loop isolated will not be permitted until an acceptable performance evaluation of the emergency core cooling system with one loop isolated has been completed.

## WATER HAMMER EFFECT

One additional concern expressed by the Board related to possible water hammer effect in the steam generators. The Staff has this matter under study applicable to several facilities; and for the Beaver Valley Unit 1, the Staff proposes to limit the recovery rate of feedwater, so that there is not sufficient energy to cause the water hammer effect. The Applicants assert that J-tubes are also being added to preclude this effect. The Board concurs in the adequacy for safety considerations of these interim solutions to the problem.

## CHLORINE DISCHARGE LIMITS

The Environmental Protection Agency on May 30, 1975, issued a National Pollutant Discharge Elimination System (NPDES) permit to the Applicants, which established a limit of 0.2 mg/l (ppm) for free available chlorine in the station effluents. Section 511(c)(2) of the Federal Water Pollution Control Act (FWPCA), as restructured by the amendments of 1972 (86 Stat. 816) provides that nothing in the National Environmental Policy Act of 1969 shall be deemed to authorize a federal agency to either review an effluent limitation or other limitation or limitations established pursuant to FWPCA or to impose an effluent limitation as a license condition different than any such limitation established pursuant to this Act. The Licensing Board therefore recognizes that, in any license issued by the Director of Nuclear Reactor Regulation to the Applicants, the chlorine discharge limit shall be in accordance with the NPDES permit.

Intervenor Pittsburgh submitted two proposed findings after the October session of hearings: (1) in reference to steam generator tube integrity, and (2) in reference to electrical equipment qualification. The steam generator tube problem is outstanding and will be resolved before the full power operating license hearing is completed. The delay is due to the ongoing preparation of further data; in any event, as indicated, this item need not be resolved for consideration of low power testing. Pittsburgh's proposed finding on this item is deferred at this time; but will be ruled upon after data are received from the Staff, and the evidentiary hearing has been concluded.

The Pittsburgh proposed finding on electrical equipment qualification likewise related to a subject of continuing review and thus the finding proposed

in October could not be resolved on the basis of the record at that time. However, further data were presented at the December hearings which resolve the matter. Thus, this proposed finding by Pittsburgh is rejected for lack of adequate data, *i.e.*, a lack of reliable, probative and substantial evidence to support the proposed finding.

The December evidentiary session includes all evidence pertinent to low power testing. The Board concludes for the reasons hereinafter detailed, that upon the basis of the evidence presented, the record is adequate to issue the initial decision for low power operation. The items previously outstanding and awaiting either further testing or OIE inspection can be summarized as follows:

(1) The evidence directed to the reactor vessel nozzle safe end concerns shows that the tests performed with sensitive instrumentation and conducted by qualified personnel have shown acceptable results. These have been documented in an NRC Staff report No. 75-28. In addition, future tests will be conducted in a similarly reliable manner.

(2) The hydrogen recombiner has been qualified with respect to both the 1971 and 1975 seismic testing qualifications by a combination of actual shake table testing of components as well as analysis for structural integrity of mechanical components. The Staff concludes, and the Board concurs that these tests are adequate at least for the low power testing license sought by Applicants.

(3) Previous consideration (page 62) has been given to the auxiliary river water system which is required to be completed by December 31, 1976. The Board again expresses concurrence with the Staff view that until that December date, the low power testing can proceed, but the Board will reexamine this matter at the concluding session held on the full power applications.

At the December 1975 session of hearings, the Staff supplemented its previous presentations respecting the status of completion of certain safety items, as follows:

(1) Modifications have been made to the emergency core cooling system.

(2) The emergency procedure has been accepted for long term cooling to prevent boron concentration buildup in the reactor vessel during the post-LOCA period.

(3) Satisfaction of the Staff's requirement for control room position indication for certain valves (requiring power lockout to meet the single failure criterion) has not yet been verified. Since this is a matter of minimal safety significance, the Board leaves this matter to the Staff for resolution.

(4) The effects of rod bowing on DNB[10] and on the power spike, and the method of flux monitoring that will be required at certain power levels have not

[10] Departure from nucleate boiling.

been fully resolved. However, these matters have no impact upon the safety of the plant for the requested low power operation.

(5) Diesel generator tests have been found acceptable.

(6) The analog process wiring has been satisfactorily tested.

## ACCIDENT ANALYSIS FOR LOW POWER OPERATION

Applicants presented testimony analyzing the consequences of postulated accidents at the power levels sought to be licensed by Applicants' low power testing motion, dated December 3, 1975. The accidents analyzed included the loss of coolant accident, steam line break, steam generator tube rupture, rod ejection accident and gas decay tank rupture. Because the plant would operate at levels not exceeding 5 percent of power during the testing and because it would operate at this level for less time than necessary to build up the fission product inventory to its 5 percent equilibrium level, the expected offsite doses for these accidents, in the unlikely event that any of them occurred during the proposed low power operation, would be less than 5 percent of the full power offsite doses given for these accidents in the FSAR.

Individual rulings on proposed findings and conclusions have not been made with respect to Applicants' and the Staff's proposals for the reason that, though the Board has modified them, to the extent shown by this initial decision, the principal substance of the Applicants' and Staff's proposals has been accepted and thus individual acceptance in whole or in part is not necessary. Intervenor Pittsburgh's final submission of seven proposed findings following the December 1975 session are determined as follows:

Proposed finding number 1 is rejected for the reason that the scope of such procedures has been reflected in the evidence and the procedures are approved with reasonable assurance that the final form will be as indicated in the evidence.

Proposed finding number 2 is rejected for the reason that the scope and outline of the preoperational tests have been shown by the evidence and a basis exists for reasonable assurance that the final form will be as reflected in the record.

Proposed finding number 3 is rejected for lack of support by reliable, probative and substantial evidence in the record in reference to the requested low power testing license.

Proposed finding number 4 is rejected for lack of reliable, probative and substantial evidence. The record shows compliance by the hydrogen recombiner with the applicable IEEE codes; one portion of the recombiner prototype has been tested and the other portion has been analyzed in accordance with approved procedures.

Proposed finding number 5 is rejected for lack of reliable, probative and substantial evidence in that no reliable evidence shows a compromise of plant safety.

Proposed finding number 6 is rejected for lack of reliable, probative and substantial evidence.

Proposed finding number 7 is rejected for lack of reliable, probative and substantial evidence and as shown in the foregoing initial decision, the auxiliary water system determination is adequate for this low power testing license.

The Pittsburgh proposed conclusions of law are rejected because they are based upon proposed findings which have been rejected.

The Board finds that upon the basis of all evidence[11] adduced, there is reasonable assurance that the activities requested to be authorized by Applicants' December 3, 1975 motion can be accomplished without undue risk to the public health and safety.

## CONCLUSIONS OF LAW

Based upon the foregoing findings of fact and the entire evidentiary record in this proceeding, the Licensing Board has determined that with respect to

---

[11] The foregoing decision consists of judgment determinations made from a composite consideration of many aspects of the evidentiary presentation. The decision is not a recital, line by line, of each statement made by the witnesses. The Courts have recognized that such judgment determinations make unnecessary reference to each line of a transcript for each statement made in the decision. See: Judge Wyzanski's statement.

> ... it is no more requisite for agencies than for courts ... slavishly to set forth in wooden numbered footnoted paragraphs every step in the finding process. [*Gilbertville Trucking Company v. U. S.*, 196 F. S. 359 (1961)]

Other courts have agreed (See: footnote 6, *Duquesne Light Company et al.*, 7 AEC 718). In fact, one case cited by the Appeal Board indicated that it was permissive, but not mandatory, for the fact finding agency to cite the transcript. The Appeal Board misquoted the language of the Court in stating (*Virginia Electric Power Company* (North Anna Power Station), ALAB-256, NRCI-75-1, page 14) that the fact finding unit "should" make citations to the transcript; the Court, however, in fact, said merely that such a unit "could" cite the transcript for hurry up reviews.

> F. P. C. could improve its chances for favorable judicial review by making explicit fact findings and by making record references that demonstrate its fact findings have evidentiary support. [*State of Louisiana v. F. P. C.*, 503 Fed 2nd 844, 871]

Most appellate work requires the parties to cite the transcript in support of exceptions which are the general basis for review.

Applicants' low power motion all matters of concern to the Board, particularly those referenced in the Licensing Board's October 21, 1975 letter, have been satisfactorily resolved. With respect to the Applicants' low power motion, and in view of the Board's concerns and inquiries (even though no party placed these matters in controversy), the Licensing Board makes the following conclusions based upon the record of this proceeding with regard to the above referenced matters:

(1) Construction of the facility has been substantially completed in conformity with the construction permit and the application as amended, the provisions of the Act and the rules and regulations of the Commission;

(2) The facility will operate in conformity with the application as amended, the provisions of the Act, and the rules and regulations of the Commission;

(3) There is reasonable assurance (i) that the activities authorized by the low power license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the regulations in this chapter;

(4) The Applicants are technically and financially qualified to engage in the activities authorized by the low power license in accordance with the regulations in this chapter;

(5) The issuance of the low power license will not be inimical to the common defense and security or to the health and safety of the public;

(6) The requirements of Section 102(2)(C) and (D) of NEPA and Appendix D to 10 CFR Part 50 have been complied with in this proceeding;

(7) Having considered and decided all matters in controversy among the parties and having independently considered the final balance among conflicting factors contained in the record of this proceeding with a view to determining the appropriate action to be taken, the Board has determined that Construction Permit No. CPPR-75 should be continued and that the requested low power operation and testing license should be granted. The following conditions on operations have been proposed by both the Applicants and the Staff in reference to full power operation. The issue which is the subject of this initial decision is solely in reference to the motion for authority for low power operation and testing, and no decision is here made in reference to full power operation. Some of the following conditions on operation, however, may apply to the low power operation authorized by this decision. The Atomic Safety and Licensing Board therefore authorizes the Director of Nuclear Reactor Regulation in his issuance of findings on matters not raised by the parties or the Board to make findings and determine restrictions on operations within the scope of the following conditions to the extent of their applicability to low power operation and testing:

i. The Applicants will augment their preoperational radiological monitoring program to obtain more precise background data acceptable to the Staff, covering a period of at least one year prior to plant operation, against which

data obtained during plant operation may be compared;

ii. The Technical Specifications will include a comprehensive environmental monitoring program which is acceptable to the Staff and which includes the following elements:

A. The program will include, in addition to more routine aspects, a basis for assessment of impingement of fish on the traveling screens, entrapment of fish in the intake structure and quantities of plankton entrained in condenser cooling water;

B. Applicants will maintain a monitoring program and, if necessary, take appropriate action through administrative measures and/or design changes to insure that the thyroid dose to any member of the general population through the milk, vegetable or any other pathway does not exceed 15 mrem/yr;

C. Applicants will comply with all federal and state regulations governing the use of herbicides for transmission line right-of-way control. The application of herbicides along transmission line rights-of-way will be confined to areas removed from human habitation. Applicants will insure that no contamination of water or pasture lands results and will avoid spraying wild edible fruits and berries; and

D. If harmful effects or evidence of potentially irreversible damage are detected, Applicants will provide an analysis of the problem and a proposed course of action to alleviate the problem. If the ecology of the river significantly changes at a future date, Applicants will provide an analysis of expected impacts which will result from the change and a course of action to minimize the impacts;

(8) The following condition, imposed by the Commonwealth of Pennsylvania pursuant to Section 401(d) of the FWPCA, shall become a condition on Construction Permit No. CPPR-75 and on the operating license issued for Beaver Valley Power Station Unit 1:

All work and activities in connection with this project shall be performed pursuant to the provisions of the Act of June 25, 1913, as amended, the Act of June 22, 1937, as amended, and in accordance with all Department permits issued for this project.

(9) The Applicants' quality assurance and quality control programs are acceptable and comply with Appendix B to the Commission's regulations, 10 CFR Part 50.

In accordance with the Atomic Energy Act, as amended, and the Commission's regulations, and on the basis of the evidentiary record and the foregoing findings of fact, all of which are supported by reliable, probative and substantial evidence, the Atomic Safety and Licensing Board concludes and determines that having resolved all matters relevant to the activities sought to be

authorized, Applicants' motion, dated December 3, 1975, for an operating license authorizing low power testing up to 5 percent of full power operation for the purpose of testing the facility is hereby granted.

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, and the Rules of Practice of the Nuclear Regulatory Commission, and based on the findings and conclusions set forth herein, that the Director of Nuclear Reactor Regulation is authorized to make findings in accordance with the regulations 10 CFR 50.57(a) and to issue an operating license authorizing low power testing[12] and further operations short of full power operation consistent with Applicants' motion for operating license authorizing low power testing and further operations short of full power operation, dated December 3, 1975, and with this Initial Decision.

IT IS FURTHER ORDERED, in accordance with Sections 2.760, 2.762, 2.764, 2.785 and 2.786 of the Commission's Rules of Practice, that this Initial Decision should be effective immediately and shall constitute the final action of the Commission on March 8, 1976, which is forty-five (45) days after the date of issuance of this Initial Decision, subject to any review pursuant to the

---

[12] The Licensing Board requests guidance from the Appeal Board whether the recent ALAB decision is operative for general use in declaring that the specifics, enumerated in a rule or statute, are the dominant factors in the interpretation and application of a rule or statute. If the ALAB ruling is applicable to all cases, and not *ad hoc*, such a determination appears to require that the specified limitation in Section 50.57(c) (10 CFR) that "... an operating license authorizing low power testing (operation at not more than 1 percent of full power for the purpose of testing the facility)" be controlling over the general term "further operations". The recent *The Toledo Edison Company, et al.* Opinion and Order (ALAB-300), in dealing with a converse situation held that it would be:

> ... against basic principles of statutory construction to read a general provision ... to forbid [or permit] what a more specific section of the same regulations ... permits. [limits or restricts] [Parentheses added]

Of direct application here, ALAB-300 quoted with approval from *Ginsberg & Sons v. Popkin*, 285 U. S. 204:

> "General language of a statutory provision, although broad enough to include it, will not be held to apply to a matter specifically dealt with in another part of the same enactment."

The Licensing Board understands that ALAB-300 Opinion to be consistent with all court decisions, and requests ruling whether consistent adherence to that *Toledo* ALAB-300 determination overcomes the ALAB-142 decision in *Consolidated Edison Company of New York, Inc.* (Indian Point 2), 6 AEC 587, which held that the specifics in Section 50.57(c) were not controlling. The Licensing Board in that Indian Point proceeding had relied upon *expressio unius est exclusio alterius* in its discussion that, consistent with statutory interpretations by courts, precise words of the regulation are controlling and obviate any need of reference to published comments. The phrase in Section 50.57(c) of "... and further operations" appears to contemplate other operations that can be undertaken within the specified power limit.

above-cited Rules of Practice. Exceptions to this Initial Decision, and a brief in support of such exceptions, may be filed by any party within twenty (20) days[13] (twenty-five (25) days in the case of the Staff) after the service of this Initial Decision. Within ten (10) days of the filing and service of exceptions, any other party may file a brief in support of, or in opposition to, such exceptions.

ATOMIC SAFETY AND
LICENSING BOARD

Gustave A. Linenberger

Frederick J. Shon

Samuel W. Jensch, Chairman

Attachment: Appendix A, "Decisional Record"

Issued:
January 22, 1976
Bethesda, Maryland

[13] Provision has been made for filing exceptions twenty days from the date of issuance of this decision. This time limit is in accord with the Rules of Practice effective when this proceeding was commenced (November 7, 1972). During the pendency of this case, the Rules of Practice were amended (March 2, 1973) and restricted the time for filing exceptions to seven days. It is axiomatic that the date of effectiveness of a regulation is subject to the constraints of due process. Some modification of factual recital should be made to ALAB-240, footnote 3 (8 AEC 830), which states that the Beaver Valley Unit 2 initial decision was misleading respecting this time interval: the 1974 Code of Federal Regulations was issued on April 15 before the date of the initial decision (April 25, 1974) and not *after* as incorrectly assumed by the Appeal Board. In addition, and importantly, the Appeal Board has held that more restrictive rules adopted during the course of a proceeding, are not applicable to a pending case. *Vermont Yankee* ALAB-124 (6 AEC 362), *Consolidated Edison Company of New York, Inc.* ALAB-186 (7 AEC 247). In this latter case, the Appeal Board emphasized respecting a rules modification only similar to the rule change pertinent here:

> . . . as this Board took pains to point out, it was noticed for hearing before Section 2.760(a) became effective

and thus contrary to fn. 3 of ALAB-240, but in conformity with the identified decisions of the Appeal Board, the restrictive seven day limit on filing exceptions is not applicable to this proceeding.

One particular section of this decision specifies the dates on or before which exceptions may be filed, as the Appeal Board apparently implies should be done. The initial decision in Beaver Valley No. 2 had referred to the rule, without repeating it, which prescribes the schedule of days for filing. The Appeal Board stated that Licensing Boards "routinely" had specified the days. The record to the date of the Beaver Valley Unit 2 initial decision reflects four initial decisions that referred to the rule, and four initial decisions that specified the days.

## APPENDIX A

## DECISIONAL RECORD

The decisional record in this proceeding (Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company (Beaver Valley Power Station, Unit No. 1), Docket No. 50-334) consists of the following:

1. Transcript Volumes:

Pages 1-70, December 19, 1974, Prehearing Conference
Pages 71-315, May 13, 1975, Evidentiary Hearing
Pages 316-442, May 14, 1975, Evidentiary Hearing
Pages 443-728, October 16, 1975, Evidentiary Hearing
Pages 729-829, October 17, 1975, Evidentiary Hearing
Pages 830-1112, December 16, 1975, Evidentiary Hearing

2. List of Exhibits

Applicants' Exhibit QA-1, Final Safety Analysis Report, Section 12, Section 13 and Appendix A

Applicants' Exhibit QA-2, "Design and Construction Quality Assurance Program"

Applicants' Exhibit QA-3, "Stone & Webster Engineering Corporation Quality Assurance Program Manual, Beaver Valley Power Station Unit 1, July 16, 1974"

Applicants' Exhibit QA-4, "Westinghouse Electric Corporation Nuclear Energy Systems Quality Assurance Plan, WCAP-8370, July 1974"

Applicants' Exhibit QA-5, "Presentation of Duquesne Light Company, Stone & Webster Engineering Corporation, Westinghouse Electric Corporation on Quality Assurance Matters"

Applicants' Exhibit QA-6, "Duquesne Answer to Board Letter of November 14, 1974"

Applicants' Exhibit QA-7, "Operations Quality Assurance Program"

Applicants' Exhibit 1, "Beaver Valley No. 1 Environmental Report"

Applicants' Exhibit 4, "Section 401 Water Quality Certification dated 1/23/74 issued by Commonwealth of Pennsylvania for Beaver Valley Units 1 and 2"

Staff Exhibit 1 (containing the inspection reports)

Staff Exhibit 10 (containing additional inspection reports)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-1

Commissioners:
William A. Anders, Chairman
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant, Units Nos. 1 and 2)

Docket Nos. 50-275 O.L.
50-323 O.L.

February 5, 1976

Upon petition by intervenors for the designation of an appropriate board or panel to hear their appeal from the Licensing Board's order granting a materials license under 10 C.F.R. Part 70, the Commission (1) rules that the Licensing Board order is final for review purposes (and hence ripe for review) since it authorizes the issuance of a materials license; and (2) pursuant to 10 C.F.R. §2.785, delegates to the Appeal Board authority to assume jurisdiction over the appeal.

RULES OF PRACTICE: APPELLATE REVIEW

A licensing board order which is interlocutory in the formalistic sense that it was rendered in the context of an ongoing operating license proceeding may nonetheless be final for purposes of review if it authorizes the grant to the applicant of a license to perform activities that later will be included in its operating license.

## MEMORANDUM AND ORDER

The San Luis Obispo Mothers for Peace (MFP), intervenors in this operating licensing proceeding, have petitioned us to designate "an appropriate board or panel" to hear their appeal from the Licensing Board's order of December 23, 1975. The utility had applied for a materials license under 10 CFR Part 70 under which it could deliver and store fuel assemblies at the Diablo Canyon site prior

to issuance of the requested operating licenses. The Licensing Board held an evidentiary hearing on the Part 70 license and denied MFP's motion to prevent delivery and storage of the fuel in its December 23 order.[1]

The regulatory staff takes the position that the Licensing Board's order is interlocutory because the MFP motion was heard as a part of the operating licensing proceeding in which hearings are not yet complete. See 10 CFR 2.714a, 730(f); *Louisiana Power and Light Co.* (Waterford Steam Electric Station, Unit 3), RAI-73-12-1155. The staff suggests, however, that in the circumstances of this case an exception to the usual rule should be made, and that an appeal should be allowed.

We do not think that the Board's order is interlocutory except in the formalistic sense that it was heard in the context of the operating license proceeding. The issue presented by the MFP motion was whether the utility should be issued an NRC license that would authorize, it, among other things, to transport and store fuel assemblies at the Diablo Canyon site until operating licenses are issued in this proceeding.[2] That issue has now been heard and decided and a Part 70 license has been duly issued. As things now stand, the utility is free to ship and store fuel at its convenience, consistent with the license conditions. Accordingly, the matter is ripe for review.

There is, however, an obstacle to review of the Licensing Board's order by an Atomic Safety and Licensing Appeal Board which, under our present rules of practice, can only be removed by Commission action. Under 10 CFR 2.785, the Appeal Board does not have jurisdiction over proceedings for the issuance of a license under Part 70, such as the license involved here, without a specific delegation from us.

We think it would be appropriate, in the circumstances of this case, that the Licensing Board's decision be reviewed by an Atomic Safety and Licensing Appeal Board. The initial decision on the operating license applications may not be rendered for some months. Without, of course, intimating any view on the merits of MFP's contentions, it is true that their contentions may be rendered moot if an appeal on the Part 70 license must await the initial decision on the

---

[1] The Atomic Safety and Licensing Boards may be given jurisdiction over proceedings for the issuance of Part 70 materials licenses. 10 CFR 2.721. Normally, the notice of hearing constituting a particular board confers jurisdiction in a particular case by referencing the specific license application or applications to be considered. Although the notice of hearing establishing the present board did not explicitly reference the materials license in question here, that license is integral to the Diablo Canyon project, and it does not appear that any interested person was actually prejudiced by the lack of such a reference. Given that Board's familiarity with the Diablo Canyon project, it made good practical sense for it to hear and decide the related issues raised by the Part 70 materials license application. Accordingly, we hereby confirm the Licensing Board's assertion of jurisdiction in this instance.

[2] If and when such licenses are issued, they would include authority to transport and store fuel and the separate Part 70 license would no longer be needed.

operating licenses. Appeal Board, as compared with Commission, review is more appropriate for the essentially factual contentions involved here.

An Appeal Board for this operating license proceeding has already been constituted. Accordingly, we direct that Board to assume jurisdiction over MFP's appeal.

MFP has requested that its "time to file a formal appeal be extended to two weeks after receipt of the Commission's response to this appeal." We leave to the Appeal Board the establishment of appropriate filing deadlines for the parties.

It is so ORDERED.

By the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D. C.
this 5th day of February 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-2

COMMISSIONERS:
William A. Anders, Chairman
Marcus A. Rowden
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of Petition of

NATURAL RESOURCES DEFENSE COUNCIL

February 12, 1976

The Commission denies the Natural Resources Defense Council's request for a stay (pending judicial review) of the effectiveness of those portions of the Commission's November 14, 1975, *Federal Register* Notice (40 *F.R.* 53056 *et seq.*) establishing standards for interim licensing actions involving the wide-scale use of mixed oxide fuel in light water nuclear power reactors.

RULES OF PRACTICE: STAY PENDING APPEAL

In assessing a request for a stay pending an appeal, the Commission considers four factors: (1) has the movant made a strong showing that it is likely to prevail on the merits of its appeal; (2) has the movant shown that without a stay it will be irreparably injured; (3) would issuance of a stay substantially harm other interested parties; and (4) where lies the public interest? *Southern California Edison Company* (San Onofre, Units 2 and 3), ALAB-199, 7 AEC 478 (1974); *Virginia Petroleum Jobber's Association* v. *FPC*, 295 F. 2d 921 (D.C. Cir. 1958).

## MEMORANDUM AND ORDER

On December 22, 1975, the Natural Resources Defense Council (petitioner) requested that the Nuclear Regulatory Commission (NRC) stay the effectiveness of its November 14, 1975, *Federal Register* Notice concerning the wide-scale use of mixed oxide fuel[1] in light water nuclear power reactors (40 *F.R.* 53056 *et*

[1] Mixed oxide fuel is fuel that contains plutonium oxide and uranium oxide. The November 14 Notice sets forth the origin and use of such fuel. 40 *F.R.* 53058-9.

*seq.*) pending judicial review which petitioner and others have sought in the Court of Appeals. Petitioner's stay request is apparently directed to those portions of the Notice which establish standards for interim licensing actions pending the Commission's ultimate decision on wide-scale use.[2] For the reasons set forth below, we find the request without merit and consequently deny the stay.

Our November 14 Notice announced the procedures for deciding—possibly by early 1977—whether to permit wide-scale use of plutonium mixed with uranium to fuel nuclear power plants, and set forth procedures for related interim licensing activities pending that decision. Interim licensing activities, the subject of petitioner's stay request, were considered extensively in the Notice. The Commission's decisions on such activities, made in the context of the limited current uses of mixed oxide fuel and the limited number of pending license applications involving such fuel, need only be summarized here.

First, staff reviews of pending license applications can continue, since many issues wholly independent of wide-scale use of mixed oxide fuel are involved and Staff Safety Evaluations and Environmental Impact Statements can be supplemented if necessary after the Commission's ultimate decision on wide-scale use.

Second, as for the public hearings that follow Staff reviews, we decided that individual Atomic Safety and Licensing Boards should determine when such hearings are appropriate on specific issues. We directed the Boards to consider: (1) the degree of likelihood that any early findings on the issue would retain their validity following the Commission's final decision on wide-scale use; and (2) the possible effect on the public interest and the litigants in having an early, if not necessarily conclusive, resolution of the issue.

Third, where a particular license application is ripe for decision assuming all relevant health, safety, security and environmental standards have been met, we decided that for fuel recycle related activities, such as fuel reprocessing and

---

[2] We reach this conclusion since petitioner's stay request asserts that the Commission denied petitioner's request to suspend all licensing actions on plutonium recycle related facilities and on mixed oxide fuel use, and thereby reversed its Provisional Views of May 8, 1975, rejected the January 20, 1975, opinion of the Council on Environmental Quality and rejected the opinion of the Commission's regulatory staff expressed in a December 23, 1974, letter to petitioner. All of these items are concerned, at least in part, with interim licensing, and the staff letter is concerned with nothing else. To construe petitioner's request as seeking a stay of the entire Notice would not be a logical reading of the request since staying the November 14 Notice presumably includes, among other things, staying preparation of the special safeguards supplement to the Environmental Impact Statement, a supplement sought by petitioner, as well as by many others. *See*, Natural Resources Defense Council Comment on Provisional Views, pp. 2, 21. In any event, petitioner offers no argument for delaying the study of safeguards alternatives, and we see no reason to do so. The November 14 Notice sets forth our view that prompt consideration of these alternatives is in the public interest. If petitioner is actually suggesting a stay of the entire process created by the November 14 Notice, no support whatever is presented for such a course of action, and since we find none, we reject the suggestion.

fabrication, the application should be judged, as regards eligibility for licensing action, on the basis of a balancing of three factors:

(1) Whether the activity can be justified, from a NEPA cost-benefit standpoint, without placing primary reliance on an anticipated favorable Commission decision on wide-scale use of mixed oxide fuel;

(2) Whether the activity would give rise to an irreversible and irretrievable commitment of resources that would unjustifiably foreclose for the activity substantial safeguards alternatives that may result from the decision on wide-scale use; and

(3) The effect of delay in the conduct of the activity on overall public interest.[3]

Fourth, as for license applications for the use of mixed oxide fuel in reactors, we noted that such applications, if any, during the interim period will necessarily fall far short of wide-scale use because of the limited mixed oxide fuel fabrication capacity available. Moreover, we found that this interim use of mixed oxide fuel could produce useful additional economic and technical data, and also found that no significant design changes would be needed since all current uranium-fueled reactors generate and consume plutonium as part of their ordinary operation. Accordingly, we concluded that operating licenses and amendments thereto could be issued in this category without case-by-case application of the three criteria described above. Finally, as to imports and exports of mixed oxide fuel, we decided that no special measures were currently necessary since the quantities involved fall far short of levels involved in wide-scale use. These, in summary form, are the key provisions of the November 14 Notice as to interim licensing actions which petitioner seeks to have stayed.

In assessing the stay request, we consider four factors: (1) has the movant (the party seeking the stay) made a strong showing that it is likely to prevail on the merits of its appeal; (2) has the movant shown that without a stay it will be irreparably injured; (3) would issuance of a stay substantially harm other interested parties; and (4) where lies the public interest? *See, e.g., Southern California Edison Company* (San Onofre, Units 2 and 3), ALAB-199, 7 AEC 478 (1974); *Virginia Petroleum Jobber's Association* v. *FPC*, 259 F.2d 921 (D.C. Cir. 1958). We consider these factors in turn.

(1) Petitioner is unlikely to prevail on the merits of his claim that the interim licensing standards of the November 14 Notice are in violation of the National Environmental Policy Act or other statutory requirements. As the extensive discussion in the Notice itself makes clear, the Commission has made every effort to create standards that permit only those activities consistent with an impartial generic decision on the wide-scale use of mixed oxide fuel and the

[3] The November 14 Notice also discussed the safeguards requirements that would have to be met for any such interim activity. *See*, 40 *F.R.* 53062-3.

impartial implementation of that decision whatever it may be. Indeed, the November 14 Notice provides careful limitations even on agency activity which falls short of actual licensing action. Consider, for example, hearings on individual license applications. Such hearings, conducted by Atomic Safety and Licensing Boards, result in no final agency action, prejudice no generic decision, and result in no impact on the environment. Yet the November 14 Notice directs Licensing Boards to consider, among other things, the relationship between the hearings and the Commission's decision on wide-scale use before approving any hearings.

The only argument petitioner offers on the merits is the assertion that the November 14 Notice rejects advice and reverses previous policy. These arguments, standing alone, do not demonstrate wrongful agency action. Moreover, contrary to petitioner's contention, the Commission's position on interim activities does not reverse its Provisional Views or reject the opinion of the Council on Environmental Quality.[4] Both the Provisional Views and the Council's letter called for avoidance of actions that could foreclose safeguards options or result in unnecessary "grandfathering." These are the basic elements of the November 14 Notice as well. Staff reviews can continue subject to revision in light of the Commission's decision. Hearings are allowed at the discretion of individual boards which must consider, *inter alia*, the likelihood that findings will retain their validity after the Commission's ultimate decision. Licensing itself, for facilities that could conceivably affect widescale use, is allowable only after a balancing of factors that includes avoiding possible foreclosure of safeguards alternatives and justifying the facility on factors other than wide-scale use of mixed oxide fuel. Licenses for the use of mixed oxide fuel in reactors are allowed to gain useful economic and technical data, a goal of the Provisional Views, and cannot themselves result in "grandfathering."[5]

---

[4] The Commission's May 8, 1975, Provisional Views on mixed oxide fuel appears at 40 *F.R.* 20142. The Provisional Views Notice discusses the January 20, 1975, letter from the Council on Environmental Quality.

[5] Petitioner also contends that the November 14 Notice rejects staff advice (i.e., the position stated by the Atomic Energy Commission regulatory staff) contained in a December 23, 1974, letter. There is, of course, no obligation on the Commission to follow staff advice. In any event, the letter simply stated that "under the present circumstances" certain statements should not be prepared. A year later, with a new schedule set for reaching a final decision, with responsible eligibility criteria established for interim activities, and with an opportunity provided for revising statements in light of the final decision on wide-scale use, circumstances have changed and further delay is not warranted.

Moreover, petitioner omits mentioning—and presumably does not dispute—a basic Commission position set forth in both the May 8 and November 14 Notices which clearly rejected the position proposed by the AEC regulatory staff. This, of course, was the Commission's decision that, prior to a determination on wide-scale use, there would be a full assessment of safeguards issues. See note 2, *supra*.

(2) Petitioner's stay request makes no attempt to show irreparable injury, and, in fact, no injury, irreparable or otherwise, is created by the interim licensing standards in the November 14 Notice. The only action directed by the Notice is Staff review of license applications. Such prehearing review is at a very early stage of the process and results in no commitment by the Commission on any issue concerning an individual application or a generic matter. Such review also, of course, has no effect on the environment. Moreover, Staff assessments can be revised in light of the Commission's ultimate decision on wide-scale use. Petitioner is simply not injured by continuation of routine staff review during the interim period.

As for public hearings, the November 14 Notice simply creates standards to be applied by individual Licensing Boards in deciding whether to conduct such hearings; standards that include reference to the Commission's ultimate decision on wide-scale use. Petitioner is not harmed by the mere creation of such standards. The November 14 Notice does not mandate any hearings. Even if it did, of course, there would be no irreparable injury to petitioner. Public hearings on individual license applications do not result in final agency action, prejudice generic Commission decisions, or impact on the environment.

As regards interim licensing, the November 14 Notice simply sets eligibility criteria. It grants no licenses of any kind. It therefore results in no injury to petitioner. If there are license applications during the interim period that complete all necessary Staff reviews and hearings, those applications will be considered in terms of the eligibility criteria created by the November 14 Notice as well as all of the other stringent health, safety, security and environmental standards that, of course, remain in effect. If any such application is granted, judicial review will be available at that time.

(3) Issuance of a stay of the November 14 Notice's interim licensing standards would substantially harm other interested parties. As the Notice makes clear, Staff reviews of applications affect matters with no relation to the wide-scale use of mixed oxide fuel. Such reviews provide analysis of other health, safety and environmental areas and make possible early identification of, for example, ways in which plant design might be changed or additional data obtained. Proceeding with the review, therefore, aids license applicants, concerned citizens, and the public generally as the ultimate consumers of power.

The creation of standards for interim hearings and granting of licenses also benefits other interested parties. These standards provide needed guidance for all concerned with the licensing of nuclear facilities. They aid in the planning necessary in the nuclear field. If the standards are met and hearings or licensing takes place, the Commission believes, as the November 14 Notice spells out, that the users of power, as well as those more directly involved in the licensing

process, will be benefited.[6] But in passing on this stay request we do not rely on the benefits of interim activity that might or might not take place. As noted above, it is too early to say how such proposed activities will fare under the interim standards. We note only that the creation of the standards is beneficial to orderly process in this complex field.

(4) As the discussion above indicates, the public interest favors retention of the interim standards set up in the November 14 Notice. The public has an interest in the thorough and prompt resolution of the mixed oxide fuel issue which has now involved regulatory action for several years. The November 14 Notice, of which the interim licensing provisions are an integral part, sets in motion a carefully planned procedure for resolving the issue with a minimum of disruptive impact on interested parties and the public generally, while retaining the maximum freedom for the Commission in making its ultimate determination.

In sum, each of the four factors weighs against granting petitioner's request for a stay. Petitioner seeks major emergency relief, yet it fails to show any probability of success on the merits or irreparable injury. On the other hand, the interests of other interested parties and of the public support retention of the standards for interim activity created in the November 14 Notice. Accordingly, petitioner's request for a stay is denied.

By the Commission

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D. C.
this 12th day of February 1976.

[6] As we stated in the Notice:
Whether the Commission decision on wide-scale use of mixed oxide fuel is favorable or unfavorable, an absolute prohibition on the conduct of any related activities in the interim could result in the disruption or cessation of planning as well as the production of useful data. Such a prohibition could result in potentially serious delays in exploring alternatives which could contribute to meeting the nation's energy needs. This could impose future economic penalties on the American public through increased costs to electric utilities caused by delaying the use of resources available in spent fuel and requiring additional spent fuel storage facilities that otherwise would not be needed. 40 *F.R.* 53061.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-3

COMMISSIONERS:
William A. Anders, Chairman
Marcus A. Rowden
Victor Gilinsky
Richard T. Kennedy

In the Matter of

PHILADELPHIA ELECTRIC COMPANY, et al.

(Peach Bottom Atomic Power Station, Units 2 and 3)

Docket Nos. 50-277
50-278

February 25, 1976

In response to the Court of Appeals' decision in *York Committee for a Safe Environment* v. *NRC* (D. C. Cir., No. 74-1923), the Commission: (1) directs the NRC staff to analyze the costs and benefits of reducing the radioactive emissions from the Peach Bottom facility; and (2) assigns the matter for further supervision (and provision of an opportunity for a hearing) to an Atomic Safety and Licensing Board.

## ORDER

On December 31, 1975, the United States Court of Appeals for the District of Columbia Circuit issued its mandate in *York Committee for a Safe Environment* v. *NRC*, No. 74-1923, remanding the case to the Commission for further proceedings. The Court of Appeals ruled that the Commission's "as low as practicable" regulations required an individualized analysis of the costs and benefits of reducing radioactive emissions from Peach Bottom Atomic Power Station. 10 CFR §§20.1, 50.34a, 50.36a (1975). The Court has remanded the case to the Commission in order to allow such an analysis to be performed, and to determine whether to modify the operating license for the Peach Bottom reactors to require additional emission control equipment. The Court's opinion states that "[s]ince the current level of emissions is low, the public interest does not require the operating license to be suspended during the pendency of the remand proceedings."

In order to effectuate the Court's mandate, we direct the regulatory staff to perform the cost/benefit analysis required by the Court's opinion, and hereby assign this matter for further supervision to an Atomic Safety and Licensing Board to be appointed by the Chairman of the Atomic Safety and Licensing Board Panel. After that cost/benefit analysis is completed, the Licensing Board shall assure that an opportunity for a hearing concerning the adequacy of the cost/benefit analysis and possible modifications to the operating license is afforded parties who participated in the prior administrative proceedings in this matter.[1]

It is so ORDERED.

BY THE COMMISSION

SAMUEL J. CHILK
Secretary of the Commission

Dated at Washington, D. C.
this *25th* day of February, 1976.

[1] Parties to the operating license proceedings were the regulatory staff; the Philadelphia Electric Company, in its own behalf and as representative for Public Service Electric and Gas Company, Delaware Power and Light Company, and Atlantic City Electric Company; the York Committee for a Safe Environment; Save Solanco's Environmental Committee; Environmental Coalition on Nuclear Power; and the States of Pennsylvania and Maryland.

UNITED STATES OF AMERICA ALAB-311
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY and KANSAS CITY POWER AND LIGHT COMPANY

(Wolf Creek Nuclear Generating Station, Unit No. 1)

Messrs. Gerald Charnoff and Jay E. Silberg, Washington, D. C. for the applicants, Kansas Gas and Electric Company, *et al.*

Mr. Frederic S. Gray for the NRC Staff

Upon consideration of staff's request for denial of applicants' motion for a directed certification of the Licensing Board's order of January 9, 1976 (requiring public disclosure of certain terms and conditions of a nuclear fuel supply contract claimed by the applicants to be proprietary in character) without prejudice to the fuel supplier's filing of a direct appeal of the Licensing Board's order, Appeal Board defers its decision on certification pending receipt of briefs on the merits of the Licensing Board's order from the NRC staff and the intervenors.

RULES OF PRACTICE: APPELLATE REVIEW

An order granting discovery against a non-party to a proceeding clearly has all of the attributes of finality insofar as that non-party is concerned. *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-116, 6 AEC 258 (1973); *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB–122, 6 AEC 322 (1973).

RULES OF PRACTICE: NON-PARTY DISCOVERY

A non-party is entitled to enter a special appearance in a proceeding for the limited purpose of asserting a claim that disclosure by a party to the proceeding of information claimed by the non-party to be proprietary in character should be made subject to a protective order.

RULES OF PRACTICE: APPELLATE REVIEW

A non-party who makes a special appearance to assert a claim that disclosure of information by a party should be made subject to a protective order acquires the right to appeal a licensing board's rejection of that claim.

RULES OF PRACTICE: APPELLATE REVIEW

Under the Commission's Rules of Practice, the right of appeal is confined to participants in the proceeding before the lower tribunal.

RULES OF PRACTICE: APPELLATE PROCEDURE

Where a non-party was neither deprived of an opportunity to make a special appearance to contest a discovery order nor is able to claim that the order rendered was unforeseeable, considerations of equity do not mandate that it be allowed to assert its position for the first time on the appellate level.

## MEMORANDUM AND ORDER

### February 3, 1976

We have before us the applicants' motion for a directed certification of the Licensing Board's January 9, 1976 order. In that order, the Board granted the motion of the intervenors State of Kansas and Mid-America Coalition for Energy Alternatives (Coalition) for public disclosure of the terms and conditions of a nuclear fuel supply contract between the applicants and Westinghouse Electric Corporation (Westinghouse), the fuel supplier. The applicants argued below, and reassert in their papers to us, that the information in question is proprietary and should be made available to the intervenors only under a protective order which would preserve its confidentiality.

On January 20, 1976, we entered an *ex parte* order in which we stayed temporarily the Licensing Board's order to the extent that it required the disclosure to the intervenors, without a protective order, of the information claimed by the applicants to be of a proprietary character. In taking this action, we made it clear that we were not then deciding whether there was warrant for

certification, let alone the merits of the controversy. Rather, resolution of those matters would abide receipt of the briefs of the other parties in response to the applicants' request for directed certification. ALAB-307, NRCI-76/1 17.

In its response, the NRC staff asserts that the request for certification should be denied without prejudice to the prosecution of an appeal from the Licensing Board's order by Westinghouse itself.[1] The staff further urges that the stay of that order decreed in ALAB-307 should be left in effect for "a reasonable period of time" to enable Westinghouse to pursue this course.

The staff's position appears to be founded on the fact that, as the applicants' papers reflect, it is Westinghouse and not applicants themselves which purportedly would be harmed were the terms of the fuel supply contract to be publicly disclosed. The staff points to the applicants' statement in their certification request to the effect that

> Unless Appeal Board review is obtained, Applicants would be obligated to publicly disclose information which Westinghouse has determined to contain cost or price information, budget levels, or commercial strategies of Westinghouse which is of such commercial or financial nature that it is customarily held in confidence and not customarily disclosed to the public. [Footnote omitted.]

In view of this consideration, the staff maintains, the applicants have not satisfied the standard for directed certification which we laid down in *Public Service Company of New Hampshire, et al.* (Seabrook Station, Units 1 and 2), ALAB-271, NRCI-75/5 478, 483 (May 21, 1975); *viz.*, "failing a certification, the public interest will suffer or unusual delay or expense will be encountered." On the other hand, the staff suggests, Westinghouse could obtain our review of the Licensing Board's order as a matter of right by the taking of an appeal as the real party in interest. We are pointed to our prior holding that "an order *granting* discovery against a non-party to the proceeding [such as Westinghouse here] clearly has all of the attributes of finality insofar as that non-party is concerned". *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), ALAB-116, 6 AEC 258 (1973) applied in *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-122, 6 AEC 322 (1973).

A. We entertain substantial doubt regarding whether Westinghouse could now take an appeal from the Licensing Board's order.

This doubt does not stem from the fact that, unlike the situation in *Midland*, ALAB-122, *supra*, the motion to compel discovery here was not addressed to the non-party but rather to a party to a proceeding. The staff is quite correct that, even though it is the applicants who have been called upon to produce the contract, the adverse impact (if any) of *unrestricted* disclosure of its terms will be felt by Westinghouse. Indeed, the claim that the contract is proprietary is in reality that of Westinghouse and not the applicants. In these circumstances, we

[1] No responses have been filed to date by either Kansas or the Coalition.

see no reason why, upon its being advised of the endeavors of the intervenors to obtain unrestricted disclosure of the contract through a discovery request made of the applicants, Westinghouse would not have been entitled to enter a special appearance in the proceeding for the limited purpose of asserting its claim that any disclosure should be made subject to a protective order. Had Westinghouse chosen to do so, it manifestly would have thereby acquired the right to appeal a rejection of that claim by the Licensing Board on the basis of our *Zion* and *Midland* holdings.

But Westinghouse did not appear specially below. Instead, it elected to leave it to the applicants to represent its interests in the matter before the Licensing Board. Insofar as we can determine, its direct involvement was confined to furnishing the applicants with the affidavit of one of its officials, Robert A. Wiesemann, in which was developed the basis for the assertion that the contract contained proprietary information which should be protected against public disclosure. This affidavit was appended to the applicants' answer to the motion to compel production of the contract.

This being so, we are at a loss to understand on what theory the staff reached its conclusion that, being dissatisfied with the Licensing Board's resolution of the controversy, Westinghouse might now appeal to us. It is familiar doctrine, fully recognized by the Commission's Rules of Practice, that the right of appeal is confined to the participants in the proceedings before the lower tribunal.[2] We need not decide whether there might be some exceptional circumstances in which a relaxation of that doctrine would be justified. Suffice it to say that none is suggested by the staff to exist here and none is apparent. Westinghouse was obviously aware of the attempt being made to obtain disclosure of the contract in sufficient time to have injected itself into the case to protect its own interest. It also could not have failed to apprehend that the intervenors opposed any restrictions upon the disclosure of the contract and that, therefore, the end result might be precisely the order which the Licensing Board entered on January 9. Neither having been deprived of an opportunity to be heard below nor being able to claim that the ruling rendered was unforeseeable, Westinghouse could scarcely urge that considerations of equity, if not of law, mandate that it be allowed to step in for the first time on the appellate level.[3]

B. For the foregoing reasons, Westinghouse almost certainly could not now seek to intervene in the proceeding for the purpose of appealing the Licensing Board's order. This does not, however, perforce mean that a directed certification is warranted at the applicants' behest. The two questions are essentially independent; the only readily perceptible interrelationship between

[2] See 10 CFR 2.714a, 2.762. *Cf. Easton Utilities Commission* v. *Atomic Energy Commission*, 424 F.2d 847, 851-52 (D.C. Cir. 1970).

[3] Even were these considerations not present, a Westinghouse appeal at this juncture would have to overcome the obstacle posed by its untimeliness.

them being that, had a Westinghouse appeal as a matter of right been possible, the applicants' need to seek certification to protect the interests being asserted would have been obviated.

Although not precisely so formulated in its response, we take the staff's position to be that, to obtain a directed certification on the basis of "unusual expense,"[4] the party seeking that relief must establish that *it*—and not someone else—is being threatened with that expense. If this were so, it would follow of course that certification should be denied in this instance because, once again, it is the commercial interests of Westinghouse and not the applicants that will allegedly be threatened by public disclosure of the contract. But, in our judgment, the premise is unsound. In the totality of the circumstances, it seems to us that it was perfectly appropriate for the applicants to advance the proprietary claim on Westinghouse's behalf and in the furtherance of its interests. If we are right about that, it would make no sense to conclude that the applicants may not, in the furtherance of the same interests, seek on Westinghouse's behalf an interlocutory review of the Licensing Board's rejection of that claim.

We are compelled to the conclusion that the applicants properly assumed a "John Alden" role by the facts (1) that the motion to produce the contract was directed to the applicants (understandably so in light of the applicants' possession of a copy of the document and their status as a party to the proceeding); and (2) that the contract contains a provision which precludes applicants from disclosing its contents without the prior written consent of Westinghouse. Indeed, although we need not decide the point, in view of this provision it well may be that the applicants had a legally enforceable duty to press Westinghouse's asserted right to have the terms of the contract protected against unlimited disclosure.

It is possible, however, that the staff's point is a different one—namely, that the applicants have not shown that either they *or* Westinghouse would suffer "unusual expense" if the Licensing Board's order were not reviewed on a directed certification and, as a consequence, the contract terms and conditions became publicly known. If this was the intended thrust of the staff's argument, it should have been more developed in its response in some greater depth. In any event, we do not believe that certification should be now denied on that basis.

Whether the record reveals potential injury to Westinghouse should the contract be disclosed without restriction, and if so the extent of that injury, are questions which do have an undeniable bearing upon whether certification should be directed. But also, and more importantly, those questions are tied closely to the merits of the issue which the request for certification would have us decide—i.e., whether the contract contains proprietary information which

[4] We do not read the applicants' papers as suggesting that either detriment to the public interest or unusual delay is here involved.

should be released only under protective order. As of this time, no party other than the applicants has briefed those merits before us and, thus, fully explored the injury issue from any relevant standpoint. Particularly since to deny certification would be to foreclose the applicants from ever obtaining a resolution of the controversy, it seems best that we obtain complete briefing of the injury issue, as well as of all other questions having a relation to the correctness of the Licensing Board's ruling, before taking further action on the applicants' request.

Accordingly, a decision on certification is being further *deferred* pending receipt of the briefs of the staff and the intervenors on the merits of the rulings contained in the Licensing Board's January 9, 1976 order.[5] Those briefs are to be filed on or before February 18, 1976.[6]

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

[5] Before the Board below, the staff argued, inter alia, that the applicants had failed to comply with the requirements of 10 CFR 2.790 governing the assertion of a claim that a document should be withheld from public disclosure on the ground that it contains proprietary data. Although the Licensing Board did not reach that argument in its January 9 order, the staff is of course free to renew it in its brief to us. At the same time, we will expect the staff to provide us with its views on the correctness of the reasons assigned by the Licensing Board for the result reached by that Board.

[6] Although not having timely responded to the request for certification, we expect Kansas and the Coalition to file briefs (or a joint brief) in accordance with the terms of this order. The failure to do so may be taken into account by the Board in its assessment of the importance to those intervenors of the relief granted to them below.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-312

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. Lawrence R. Quarles
Dr. W. Reed Johnson

| | |
|---|---|
| In the Matter of | Docket Nos. STN 50-454 |
| COMMONWEALTH EDISON COMPANY | 50-455 |
| | 50-456 |
| (Byron Station, Units 1 and 2 | 50-457 |
| and Braidwood Station, Units | |
| 1 and 2) | |

Upon review *sua sponte* of the Licensing Board's partial initial decisions of December 6, 1974 (LBP-74-87), January 8, 1975 (LBP-75-1), and October 29, 1975 (LBP-75-64), and the initial decision rendered on December 31, 1975 (LBP-75-74), Appeal Board finds no errors warranting corrective action.

Licensing Board decisions affirmed.

## DECISION

February 5, 1976

Before us are several decisions which the Licensing Board has rendered in this construction permit proceeding involving Units 1 and 2 of the Byron Station and Units 1 and 2 of the Braidwood Station. The four units are to be substantially identical pressurized water reactors located at two different sites in northern Illinois. The Byron site is in Ogle County, approximately 17 miles southwest of the City of Rockford; the Braidwood site is in Will County, approximately 50 miles southwest of Chicago and 20 miles south-southwest of Joliet.[1]

[1] In thus identifying the location of the Braidwood facility, we have relied on the representations contained at pp. 1-1 and 2-1 of the Final Environmental Statement for that facility (issued in July 1974). On the other hand, in paragraph 3 of its January 8, 1975 partial initial decision (see n. 3, *infra*), the Licensing Board adopted a proposed finding, jointly submitted by the applicant and the NRC staff, which put the Braidwood site at

Footnote 1 continued on next page.

The decisions below pertaining to these reactors are four in number: (1) the partial initial decision rendered on December 6, 1974, which addressed environmental and site suitability matters in connection with the Byron facility and paved the way for the issuance under 10 CFR 50.10(e) of a limited work authorization for the two units of that facility;[2] (2) the partial initial decision rendered on January 8, 1975, which covered the same ground in connection with the Braidwood facility and had the same effect;[3] (3) the "second partial initial decision" rendered on October 29, 1975, which was applicable to both facilities and made the findings requisite to allowing the applicant to conduct certain additional activities (including subsurface preparation and foundation installation);[4] and (4) the initial decision rendered on December 31, 1975, which was also applicable to both facilities and which, on the basis of the findings therein on the remaining radiological health and safety issues, authorized the issuance of construction permits.[5]

No exceptions having been filed to any of the partial initial decisions, review thereof was deferred by a series of orders of the Chairman of the Appeal Panel to await the Licensing Board's ultimate disposition of the proceeding. That disposition now having been made, the time has come for review of all four decisions. Since in common with its predecessors, the last decision has not been challenged by any party, we have conducted the review on a *sua sponte* basis.

Our scrutiny of each of the crucial findings made by the Licensing Board, and of the underlying record, has disclosed no error warranting corrective action. With respect to that portion of the December 31, 1975 decision which addressed the issue of steam generator tube integrity,[6] however, our very recent observation in *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-306, NRCI-76/1 14, 15 (January 14, 1976) is fully applicable and bears repetition here:

---

Footnote 1 continued.

distances of approximately 60 and 24 miles from Chicago and Joliet respectively. No record reference was assigned for that proposed finding; nor was one supplied by the Board. Thus, there is no way of determining from the January 8 decision whether the FES representations were contradicted by other evidence before the Board.

In this instance, it does not appear that the discrepancy materially affects the disposition made by the Licensing Board of any issue which it was called upon to decide. We nonetheless take this occasion to remind licensing boards generally of their obligation to ascertain, before adopting any proposed finding, that that finding is supported by the record. Where the evidence on a particular point is in conflict, the board must, of course, be especially careful to identify the source of its findings on the point.

[2] LBP-74-87, 8 AEC 1006.

[3] LBP-75-1, 8 AEC 1197.

[4] LBP-75-64, NRCI-75/10 712.

[5] LBP-75-74, NRCI-75/12 972.

[6] See pars. 23-25, NRCI-75/12 at 980-981.

"In a pending operating license proceeding involving a pressurized water reactor facility containing steam generators supplied by the same vendor [see *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-284, NRCI-75/8 197 (August 11, 1975)], this Board has been exploring in depth the steam generator tube integrity question. Although no decision has as yet been reached in that case, there is nonetheless no reason to withhold further our approval of the issuance of construction permits here. Even assuming that steam generator tube integrity should be there determined to be a still unresolved safety problem, on the basis of what has been disclosed in *Prairie Island* to date we have little doubt that the problem is readily susceptible of full resolution by the time the South Texas facility will be ready to commence operation. That is enough for present purposes. See *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, NRCI-75/9 404, 412-13 (September 24, 1975." [Footnote omitted.]

---

The decisions of the Licensing Board under review are *affirmed.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-313

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. 50-376

PUERTO RICO WATER RESOURCES AUTHORITY

(North Coast Nuclear Plant, Unit 1)

Mr. Gonzalo Fernós, Santurce, Puerto Rico, intervenor *pro se*.

Upon appeal by intervenor from the Licensing Board's order of February 3, 1976 denying (1) reconsideration of an earlier order denying intervenor's motion to disbar applicant's attorney from Commission proceedings, and (2) its motions to preclude from this proceeding an NRC staff attorney and to disqualify one of the Licensing Board members (all because of alleged violations of the *ex parte* rule, 10 C.F.R. 2.780(a), engendered by a conference telephone call which did not include the intervenor), the Appeal Board rules that, although conference calls involving a licensing board which include some parties and exclude others should be avoided except in the case of the most dire necessity, there is nothing to suggest that substantive matters were discussed and hence that the *ex parte* rule might have been violated in the instant situation.

Appeal dismissed.

RULES OF PRACTICE: EX PARTE COMMUNICATIONS

A conference call between an adjudicatory board and some but not all of the parties should be avoided except in the case of the most dire necessity, even if no substantive information is discussed and the rule precluding *ex parte* communications is therefore not technically violated.

## MEMORANDUM AND ORDER

### February 24, 1976

1. One of the intervenors in this construction permit proceeding, Gonzalo Fernós, has attempted to appeal from the February 3, 1976 order of the Licensing Board. That order denied a motion filed by Mr. Fernós which had sought, *inter alia*, the following relief: (1) reconsideration of the Board's January 7, 1976 order denying Mr. Fernós' earlier motion to preclude Maurice Axelrad, the attorney for the applicant, from further participation in this or any other licensing proceeding before the Commission; (2) the preclusion from the proceeding (or alternatively the reprimand) of the attorney for the NRC staff, Henry J. McGurren; and (3) the disqualification of one of the Licensing Board members.

What brought about Mr. Fernós' request for this relief was a single event, which was summarized in the Licensing Board's January 7 order as follows:

> On December 3, 1975, Counsel for the Applicant called Counsel for the Staff and advised him that a letter was being sent that day by the Executive Director of the Applicant, to the Commission, the Hearing Board, and all parties, giving notice of Applicant's decision to indefinitely postpone the proposed North Coast facility and stating Applicant's desire to continue the proceeding in order to obtain approval of a suitable site. Mr. Axelrad further indicated that, in view of the prehearing conference then scheduled for January 7, 1976, he would arrange a conference telephone call to promptly advise the Hearing Board of the letter.
>
> A conference telephone call was subsequently initiated by Mr. Axelrad. The call included Mr. Linenberger, a member of this Board (who acted in the absence of Mr. Yore, the Chairman of this Board, who was out of town participating in another hearing) and Mr. McGurren, the Staff counsel, but none of the Intervenors.
>
> Both Mr. Linenberger, who took notes, and Mr. McGurren confirm that, during the conference call, Mr. Axelrad advised that the purpose of the conference call was to promptly notify the Board of the letter being sent that day by the Applicant in view of the approaching scheduled prehearing conference. He also advised that the Applicant would file by December 5, 1975, a response to the Intervenors' motion requesting suspension of hearing activities and Mr. Fernós' motion to change the date of the then scheduled prehearing conference. No other matters were discussed during the conference call. The fact that the conference call took place was set forth in the first paragraph of a letter to the Board which counsel for the Applicant dispatched on December 5, 1975, with copies to all parties.

Mr. Fernós claims a violation on the part of all participants in the conference call of the prohibition against *ex parte* communications contained in Section 2.780(a) of the Rules of Practice, 10 CFR 2.780(a). The Licensing Board noted, however, that that prohibition is directed to "any evidence, explanation, analysis, or advice . . . regarding any substantive matter at issue in [the] proceeding . . .". The Board determined in its January 7 order, and reiterated in the February 3 order, that "[t]he information communicated by Mr. Axelrad did not concern any substantive matter at issue in this proceeding but related only to matters of procedure—information impacting the prehearing conference schedule and information regarding dates for responding to outstanding pleadings."

2. As Mr. Fernós explicitly recognizes, Section 2.730(f) of the Rules of Practice, 10 CFR 2.730(f), in terms proscribes appeals from interlocutory orders. It is possible, however, that his papers to us were intended to be a request for a directed certification under Section 2.718(i), 10 CFR 2.718(i). *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-271, NRCI-75/5 478 (May 21, 1975). Further, insofar as it dealt with the endeavor to obtain the disqualification of a member of the Licensing Board, the February 3 order may be before us for review without regard to the attempted appeal. Section 2.704(c), 10 CFR 2.704(c).

Be that as it may, we are entirely satisfied that there is a total lack of merit to Mr. Fernós' attack upon the Licensing Board's disposition of his motions. The record is devoid of anything to suggest that substantive matters were discussed in the conference call in question. Beyond that, even had there been a failure to observe the strictures of Section 2.780, the severe sanctions suggested by Mr. Fernós would have been entirely inappropriate. Without minimizing at all the importance of compliance with the *ex parte* communications rule, it seems obvious to us that (at least in the absence of aggravated circumstances) an isolated violation of that rule does not warrant the disbarment of attorneys from the proceeding or the disqualification of a Board member.

Although we therefore dismiss the appeal and decline further review of the matter on our own initiative, this action should not be taken as an implicit approval of what transpired here. To be sure, the applicant may have thought itself duty-bound to notify the Board expeditiously of its decision to postpone construction of the facility. It seems to us, however, that a conference call was not the appropriate means of providing that notification unless it were possible to involve *all* parties—and not just the applicant and the staff. As a general matter, conference calls which include some parties and exclude others are to be avoided except in the case of the most dire necessity. For even if all of the participants scrupulously adhere to both the letter and the spirit of Section 2.780(a) during the course of the call—an absolute imperative in all circumstances—the mere fact that there are non-participating parties is an incubator of possible suspicion and doubt. In this instance, as far as we can

determine, no necessity to place the conference call existed. Since the prehearing conference was still more than a month in the offing, a letter to the Board, with copies to all other parties, would have sufficed.

---

Appeal *dismissed.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-314

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Michael C. Farrar
Richard S. Salzman

In the Matter of

THE TOLEDO EDISON COMPANY
AND THE CLEVELAND ELECTRIC
ILLUMINATING COMPANY

(Davis-Besse Nuclear Power Station, Unit 1) — Docket No. 50-346A

THE CLEVELAND ELECTRIC
ILLUMINATING COMPANY, et al.

(Perry Nuclear Power Plant, Units 1 and 2) — Docket Nos. 50-440A, 50-441A

THE TOLEDO EDISON COMPANY,
et al.

(Davis-Besse Nuclear Power Station, Units 2 and 3) — Docket Nos. 50-500A, 50-501A

Messrs. Wm. Bradford Reynolds, Gerald Charnoff and Robert E. Zahler, Washington, D. C. for the applicants, Toledo Edison Company, et al.

Upon motion by applicants in antitrust proceeding for a directed certification under 10 C.F.R. 2.718(i) of questions decided by the Licensing Board relating to the manner in which evidence is to be received (LBP-76-5), the Appeal Board rules that there are no exceptional circumstances presented which warrant its interlocutory involvement.

Motion denied.

RULES OF PRACTICE: CERTIFICATION

Absent exceptional circumstances which would warrant its interlocutory involvement, an appeal board is not inclined to direct certification under 10 C.F.R. 2.718(i) of questions relating to what evidence is permissible and in what procedural framework it may be adduced.

RULES OF PRACTICE: APPELLATE REVIEW

That eventual review of an initial decision might result in a determination that a particular evidentiary ruling by a licensing board was in error and that a new hearing must therefore be held is not *per se* an exceptional circumstance which warrants interlocutory involvement by an appeal board.

## MEMORANDUM AND ORDER

### February 26, 1976

We summarily deny the applicants' motion for a directed certification under 10 CFR 2.718(i) of the questions decided by the Licensing Board in its February 9, 1976 order in this antitrust proceeding. LBP-76-5, NRCI-76/2 127. As applicants themselves point out in the motion, those questions relate to "the manner in which evidence was to be received" in the now on-going hearing. Even assuming the applicants are right in their insistence that the Licensing Board decided the matter incorrectly, and further that they may suffer prejudice if the February 9 order is not promptly overturned, our intervention at this juncture would be improvident.

During the course of a lengthy and involved antitrust proceeding, a licensing board almost inevitably will be called upon to make numerous determinations respecting what evidence is permissible and in what procedural framework it may be adduced. Were we to allow ourselves to be cast in the role of a day-to-day monitor of those determinations, we would have little time for anything else. Although the applicants urge that there are exceptional circumstances present here which warrant interlocutory involvement on our part, we do not perceive them. The most that can be said is that, if on review of the eventual initial decision we should conclude that the Board below was wrong, a new hearing might have to be ordered. But it is also possible that the ultimate result will moot the questions which the applicants would have us resolve immediately. As we have had occasion to stress in this case before, it would do a disservice to the entire licensing process for us to step in to the middle of a complex trial and exercise our certification powers to review *sui generis* rulings on the admission of evidence. See ALAB-300, NRCI-75/11, 752, 768-69 (1975).

In the last analysis, the potential for an appellate reversal is always present whenever a licensing board (or any other trial body) decides significant procedural questions adversely to the claims of one of the parties. The Commission must be presumed to have been aware of that fact when it chose to proscribe interlocutory appeals (10 CFR 2.730(f). That proscription thus may be taken as an at least implicit Commission judgment that, all factors considered, there is warrant to assume the risks which attend a deferral to the time of initial decision of the appellate review of procedural rulings made during the course of trial. Since a like practice obtains in the federal judicial system, that judgment can scarcely be deemed irrational.

---

Motion for a directed certification *denied.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA ALAB-315
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. Lawrence R. Quarles
Michael C. Farrar

In the Matter of Construction Permit
CONSUMERS POWER COMPANY Nos. 81 and 82
(Midland Plant, Units 1 & 2) (Show Cause)

Mr. Michael I. Miller, Chicago, Illinois, argued the cause for petitioner Consumers Power Company; with him on the brief was Mr. R. Rex Renfrow, III, Chicago, Illinois. Mr. Paul Covalt also appeared on behalf of the Company.

Mr. James P. Murray, Jr. argued the cause for the Nuclear Regulatory Commission Staff; with him on the brief was Mr. William J. Olmstead.

Upon applicant's motion to reconsider ALAB-283, the Appeal Board reaffirms its ruling that the "burden of proof" (in the sense of the ultimate burden of persuasion) is on the holder of a construction permit called upon to "show cause" why its permit should not be revoked, suspended or modified for not complying with Commission safety regulations. The Board also rules that to trigger that burden, the party initiating the charges must first come forward with sufficient evidence of noncompliance to require a reasonable board to inquire further.

ALAB-283 clarified; motion to certify case to Commission denied.

RULES OF PRACTICE: BURDEN OF PROOF

Public safety considerations are paramount in Commission licensing proceedings; consequently, a utility building a nuclear power reactor bears the burden of proving compliance with Commission safety regulations not only when it initially applies for a construction permit and when it ultimately seeks an operating license, but also if called upon in the interim to "show cause" why its construction permit should not be lifted for unsafe construction practices.

RULES OF PRACTICE: BURDEN OF PROOF

Where nuclear power plants are involved, public safety considerations are best served if a utility constructing a nuclear reactor bears the burden of proof in a show-cause proceeding and as a result must stop construction practices it cannot prove safe rather than allowing those practices to continue because someone else cannot prove them unsafe.

ADMINISTRATIVE PROCEDURE ACT: BURDEN OF PROOF IN FEDERAL ADMINISTRATIVE PROCEEDINGS

The Administrative Procedure Act is not dispositive of which party bears the burden of proof in a federal administrative proceeding, but yields to the requirements of the substantive statute under which a proceeding is being conducted. See ALAB-283, NRCI-75/7 at 17.

RULES OF PRACTICE: SHOW-CAUSE PROCEEDING

In a show-cause proceeding, a respondent utility is entitled to know what it is charged with and the evidence against it before being called upon to respond with evidence in its own behalf.

RULES OF PRACTICE: BURDEN OF PROOF

The term "burden of proof" in a show-cause proceeding has the same meaning as previously applied by the Commission in construction-permit proceedings; *i.e.*, it refers not to the initial burden of going forward with evidence, but to the ultimate burden of persuasion.

RULES OF PRACTICE: BURDEN OF PROOF

To withstand a respondent's motion to dismiss a show-cause proceeding, the party supporting the order to show cause, whether the staff or an intervenor, must come forward initially with sufficient evidence to cause a reasonable licensing board to inquire further. Such a demonstration creates a legitimate basis for calling upon the respondent to satisfy the ultimate burden of proof, *i.e.*, to persuade the Licensing Board that no sanctions against it are warranted based on that evidence.

## OPINION ON RECONSIDERATION

### February 27, 1976

*Opinion of the Board by Mr. Salzman and Mr. Farrar:*

This case stems from a Commission order directing Consumers Power Company to "show cause" why its permit to construct the Midland nuclear

power generating facility should not be suspended or otherwise modified for noncompliance with the Commission's quality assurance regulations.[1] The Commission referred the "show cause" proceeding to a Licensing Board for hearing. The Board resolved the matter in Consumers' favor and we affirmed its decision *sua sponte* in ALAB-283.[2]

Among other things, we ruled in ALAB-283 that Consumers had the "burden of proof" in the show cause proceeding; it is this procedural ruling which the company asks us to reconsider. As we held Consumers to have satisfied that burden, its petition raises only academic questions which we would normally forego.[3] The papers filed by the company and the staff (which supports the petition), however, suggest that those parties are laboring under some misconceptions about the procedural requirements our ruling on burden of proof entails. (See Part II, *infra.*) For this reason, notwithstanding our reluctance to decide abstract issues, we have elected to reconsider the question.

## I

1. Our decision on burden of proof rests on the Atomic Energy Act as interpreted by the Commission. Under that Act, a utility seeking permission to build a nuclear power plant must satisfy the Commission at a public hearing that its application meets the prerequisites for that privilege. It is equally true that the Commission's award of a construction permit carries with it no concomitant right to operate the completed facility. Rather, to obtain an operating license, the Act requires the utility to shoulder once again the burden of proving to the Commission (at a public hearing if need be) that it has, *inter alia,* constructed the plant in conformity with its application, the Act, and the Commission's rules and regulations. And even at this late stage the Act permits the Commission to withhold the license for good cause.[4]

It was not happenstance that Congress structured Atomic Energy Act procedures in this manner. Rather, it was intentionally done to make certain that public safety was a paramount issue at every stage in processing applications for commercial use of nuclear power. As the Supreme Court has noted with approval, the Commission has interpreted the Atomic Energy Act to mandate "that the public safety is the first, last, and a permanent consideration in any decision on the issuance of a construction permit or a license to operate a

[1] See *Consumers Power Company* (Midland Plant, Units 1 and 2), CLI-74-3, 7 AEC 7 (1974).

[2] ALAB-283, NRCI-75/7, 11 (1975).

[3] See *Northern States Power Company* (Prairie Island Nuclear Generating Station), ALAB-252, 8 AEC 1175, 1177 (1975).

[4] See ALAB-283, *supra,* NRCI-75/7 at 16-18 and the authorities there cited.

nuclear facility." *Power Reactor Company* v. *Electricians*, 367 U.S. 396, 402 (1961), quoting from and upholding the Commission's earlier decision in that same case, *In re Power Reactor Development Company*, 1 AEC 128, 136 (1959).[5]

Our decision in ALAB-283 on the correct placement of the burden of proof flowed directly from that Commission reading of the Atomic Energy Act. If public safety considerations are to be paramount in fact as well as in word, we think it ineluctable that the utility must bear the burden of proving compliance with Commission safety regulations not only at the beginning and at the end of the nuclear licensing process, but—as in this case—when called upon at some interim point to "show cause" why a construction permit should not be lifted for unsafe construction practices. Where nuclear power plants are involved, public safety is indisputably better served if a utility must stop construction practices it cannot prove safe; a decision that it may continue those practices because someone else cannot prove them unsafe is manifestly not one which places public safety considerations first. In our judgment, the allocation of the burden of proof adopted in ALAB-283 is compelled by the Atomic Energy Act; the arguments of the company, the staff and our dissenting colleague do not persuade us otherwise.

2. The company and the staff appear to recognize that safety considerations can be affected by which side has the burden of proof. But the staff sees "the basic goal of the [Atomic Energy Act as] public health and safety in accordance with the Administrative Procedure Act."[6] And it reads Section 7(c) of that Act (5 U.S.C. §556(d)) to forbid placing that burden on the utility in "show cause" proceedings.

The parties' contentions in this regard are syllogistic. Their major premise is that section 7(c) of the APA[7] puts the burden of proof on "the proponent of

---

[5] Where the Commission had further stressed that it "regards the importance of public safety so highly that it considers that it does not lose jurisdiction of this subject even after a license has been issued, at any stage in the course of its construction, or, for that matter, even after a facility is in operation." *Ibid.*

[6] App. Tr. 47-48:

MR. SALZMAN: "If the basic goal of the [Atomic Energy Act] is to insure that to the maximum extent feasible the safety of these [nuclear power] plants, do you think that is better achieved if a show cause order places the burden on the Staff, or if it places the burden on the company?"

MR. MURRAY [Staff counsel]: "Let me answer this way: if the basic goal of the statute were the public health and safety and no other goal, I would agree with you. The basic goal of the statute is public health and safety in accordance with the Administrative Procedure Act."

[7] The APA applies to Commission adjudicatory proceedings by its own terms. 5 U.S.C. §554. The Atomic Energy Act restates this requirement in Section 181, 42 U.S.C. §2231. Section 181, however, purports neither to enlarge nor to alter either the terms of the APA or the way it affects Commission proceedings.

[an] order" unless a statute provides otherwise; their minor premise is that Consumers was not the proponent of the show cause order and the Atomic Energy Act does not give the utility the burden of proof; and their conclusion is, accordingly, that that burden did not rest with the company in the show cause hearing. Consumers acknowledges that the Atomic Energy Act creates the two-step licensing procedure we described and that its construction permit will not ripen automatically into an operating license, but it contends that its construction permit was "complete when issued" and, accordingly, that the Administrative Procedure Act protects it against the burden of having to "reprove" its entitlement to that permit before it completes the nuclear plant and applies for an operating license.

These arguments are wide of the mark. The Administrative Procedure Act is not dispositive of which party bears the burden of proof in a federal administrative proceeding. Rather, as we noted in ALAB-283, on this matter the APA in terms yields to the requirements of the substantive statute, in this case the Atomic Energy Act. See NRCI-75/7 at 17.[7a] Accordingly, it is to that Act one must look for guidance in deciding who is intended to bear that evidentiary burden in a Commission "show cause" proceeding. Such guidance is not limited to express statutory command. A congressional intent to place the burden of proof on a particular party may also be discerned from a statutory scheme as a whole, or from a review of its legislative history. *Old Ben Coal Corp.* v. *Interior Board of Mine Operations Appeals,* 523 F.2d 25, 34-37, *rehearing and rehearing in banc denied,* 523 F.2d 39 (7th Cir. 1975); *Stearns Elec. Paste Co.* v. *E.P.A.*, 461 F.2d 293, 304-05 (7th Cir. 1972); *Environmental Defense Fund* v. *Ruckelshaus,* 439 F.2d 584, 593 (D.C. Cir. 1971).[8]

We concluded in ALAB-283 that the Atomic Energy Act intends the party seeking to build or operate a nuclear reactor to bear the burden of proof in any Commission proceeding bearing on its application to do so, including a "show cause" proceeding. On reconsideration, we find the basis of that conclusion sound. To the extent other provisions of the Act bear on the question, we find them confirmatory of our judgment. For example, the Act allows the Commission to require a nuclear power plant to be modified to incorporate subsequent safety advances even after a construction permit is issued.[9] It also permits the agency to deny an operating license for a plant built in full accord

---

[7a] As we there noted, the pertinent provision of the Administrative Procedure Act, 5 U.S.C. §556(d), provides: "*Except as otherwise provided by statute,* the proponent of a rule or order has the burden of proof." (Emphasis added).

[8] The petitioners and the dissent would distinguish away the cited decisions on their particular facts. Those cases speak for themselves. In our judgment, the factors relied on by the courts to conclude that the company in each of those cases had the burden of proving the safety of its product or operation in order to retain the right to market or to operate are less compelling than the factors which require a similar result here.

[9] 10 C.F.R. §50.54(h).

with a construction permit.[10] And it empowers the Commission, "at any time after the filing of the original application," to require a utility to provide it with additional information, under oath, for the express purpose (*inter alia*) of enabling the Commission "to determine ... whether [the utility's] license should be modified or revoked."[11] These provisions counter any suggestion that a construction permit conveys immutable privileges, as the Company and staff suggest. Rather, the contention that a construction permit holder has "statutory rights" to build a nuclear power reactor "without having to prove at each stage of construction that it is proceeding in accordance with its permit and Commission requirements" (Staff Br. p. 5), is simply at war with the Commission's own pronouncements that "public safety is the first, last and permanent consideration" in these matters.[12]

3. Nor does the staff's reading of the legislative history of the Atomic Energy Act persuade us that the burden of proof should not be on the utility. The staff asserts that (Brief p. 4):

> The legislative history of section 185 reveals that Congress was concerned with the two-phase licensing process it had developed and feared that the procedural safeguards afforded at the operating license stage might not be afforded at the construction permit stage and that if a facility were already built the Commission would be unlikely to refuse a license. Therefore section 185 was amended to require that "... the same procedural safeguards in the case of licenses be applied to construction permits." [Comments of Rep. Holifield on introducing the amendments, 100 Cong. Rec. 10309.]

The staff argues that this amendment to section 185 supports its position. As the staff sees it (Brief, p. 4):

> Procedural safeguards for licensees include the right to have charges against them proved when they are accused of violating license conditions including the conditions of construction permits. (Footnote omitted.)

---

[10] 42 U.S.C. §2235; *Power Reactor Company* v. *Electricians, supra*, 367 U.S. at 410-15.

[11] 42 U.S.C. §2232(a).

[12] The company, the staff and the dissent also argue that the Commission's Rules of Practice place the burden of proof on the proponent of a show cause order. Those rules are cast in general terms to cover many types of proceedings. That they are far from a model of perspicuity on this question is illustrated by the proceedings below. The Licensing Board initially ruled that the burden of proof was on the company, then reversed itself to hold that that burden was on the intervenors. See 8 AEC 112. Yet, when the intervenors defaulted and presented no evidence, the Board declined to dismiss the proceeding. See 8 AEC 584, 592. The key regulation, 10 C.F.R. §2.732, provides only that the applicant or the proponent of an order has the burden of proof "unless otherwise ordered by the presiding officer." The question, of course, is what the presiding officer should have ordered.

The difficulty with this position is that the staff has misread the legislative history. To begin with, section 185 of the Atomic Energy Act was not amended.[13] What did occur was that a different amendment to another proposed section of the Act—section 189—was offered at the same session by Senator Hickenlooper, and this did pass. But the Senator's purpose was to add procedural safeguards to protect the public, not to aid the utilities. His amendment accomplished this by requiring a public hearing on an application for a construction permit in addition to the one then already required for a license to operate a nuclear facility. See *Power Reactor Company* v. *Electricians, supra*, 367 U.S. at 411-14.

It is undisputed that at both construction and operating license hearings the burden is on the utility to prove its entitlement to the permit or license. No support for the staff's position—that the utility does not have the burden of proof in a "show cause" proceeding—can be derived from an amendment to the Atomic Energy Act which (1) changed hearing procedures for the public's benefit and (2) did so by creating a new proceeding in which the burden of proof was once again placed squarely on the utility. If anything, the amendment in question cuts against the staff's arguments.[14]

4. The reasoning of our dissenting colleague essentially tracks that of the applicant and staff and is in relevant part answered in the preceding pages. The dissent does make two additional points which we think should not pass unchallenged. The first concerns the practical significance of the placement of the burden of proof. Quoting from ALAB-283, Dr. Quarles correctly points out that (*infra*, p. 118): "[w]hich party bears the evidentiary burden becomes a significant question . . . only where the evidence on an issue is evenly balanced or if the trier is in doubt about the facts." The dissent goes on to add, however, that "[i]n a practical, as distinguished from a theoretical, sense this situation is unlikely to occur in a licensing hearing." *Ibid.* We do not share our colleague's confidence in this regard. Rather, we note that the likelihood that evidence can be in equipoise—and a decision consequently turn on which partly bears the burden of proof—is neither unknown in administrative proceedings nor without practical significance for federal safety hearings. *See, e.g., Old Ben Coal Corp.* v.

---

[13] See *Power Reactor Development Company, supra*, 1 AEC at 134, fn. 19. where the legislative history discussed here is set out in careful detail.

[14] The staff also relies on section 9(b) of the Administrative Procedure Act (5 U.S.C. §558(c)) to support its contention that a respondent utility cannot be required to bear the burden of proof in a show cause proceeding. (Br. p. 6). Such reliance is misplaced. That section generally requires written notice of violations and opportunity to achieve compliance before agencies invoke proceedings to suspend or revoke licenses. By its own terms, however, section 9(b) does not apply to cases "in which public health, interest, or safety requires otherwise." The Commission itself declared this to be such a case two years ago when Consumers sought to invoke that section in an effort to block the show cause hearing altogether. *Midland, supra*, CLI-74-3, 7 AEC at 10.

*Interior Board of Mine Operations Appeals, supra,* 523 F.2d at 42 (7th Cir. 1975) (dissenting opinion of Judge Pell).

We also cannot accept Dr. Quarles' suggestion (*infra*, p. 121), that there could be "no compromise of safety" if the burden of proof in show cause proceedings were not on the utility because it would, ultimately, have to shoulder that burden when it came time for it to seek an operating license. To the contrary, we think this case itself illustrates a situation in which safety might have been compromised by such a procedure.

It is to be recalled that the "show cause" order was based on the discovery of a possible pattern of deficiencies in Consumers' cadwelding operations.[15] ("Cadwelding is a process for fusing together metal bars used in reinforced concrete construction and represents a critical step in construction of the [nuclear] facility."[16]) Consumers sought to have the "show cause" order dismissed without a hearing on the theory that its cadwelds were not scheduled to be covered by concrete for several weeks and so "were accessible for any necessary inspection, repair or replacement" and therefore posed no threat to safety.[17] The Commission declined to dismiss the order, rejecting the Company's argument as one which "blinks the realities of the situation" because it "gives insufficient recognition to the fact that cadweld deficiencies represent potential latent defects in the structure housing the reactor" and that "this stage of construction is the only one at which such deficiencies can be detected."[18]

Had the evidence on this question at the show cause hearing been evenly balanced and the burden of proof not on Consumers, the show cause order would have had to be dismissed and the company permitted to continue its questionable cadwelding practices. We think this plainly could have had an adverse impact on the safety of the reactor. It is no answer to say that Commission inspectors could examine each new cadweld until the plant was completed. As the Commission stressed earlier in this very case, its "inspection system is not designed to and cannot assume such tasks."[19]

To be sure, it would have been possible to wait until the company eventually applies for an operating license and then relitigate the issue of cadwelding deficiencies with the burden of proof on the company. But by that time the plant would have been built and the cadwelds encased in concrete. Obviously, this is hardly a satisfactory solution from a safety standpoint. No legal strictures mandate that result. With all deference to our dissenting colleague, we decline to adopt a rule on burden of proof which would require resort to this cumbersome procedure of dubious effectiveness.

---

[15] *Midland, supra,* CLI-74-3, 7 AEC at 10.

[16] *Ibid.*

[17] 7 AEC at 11.

[18] *Ibid.*

[19] *Ibid.*

5. It is by no means unprecedented for Congress to have placed the burden of proof on a party called upon to respond to a show cause order. To cite as examples but two enactments dealing with public health and safety, the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. §§801 *ff.*, and the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. §135, both impose similar requirements. In administrative proceedings under either of those statutes, one charged with disregarding governing safety standards has the burden of proving his compliance. A respondent's failure to carry that burden can mean the removal of his product from the marketplace or the closing down of his mining operation, Congress having deemed the safety considerations at stake more important than any financial detriment to the party involved. *Old Ben Coal Corp.* v. *Interior Board of Mine Operations Appeals, supra; Environmental Defense Fund* v. *Ruckelshaus; supra; Stearns Elec. Paste Co.* v. *E.P.A., supra; Southern National Mfg. Co.* v. *E.P.A.*, 470 F.2d 194, 196-97 (8th Cir. 1972); *Dow Chemical Company* v. *Ruckelshaus*, 477 F.2d 1317, 1324 (8th Cir. 1973).

Nonobservance of this Commission's rules poses at least as serious a threat to public health and safety as transgressions against the pesticide regulations or the coal mine safety laws. It is therefore hardly anomalous for Congress to have mandated the use of similar procedures in enforcement cases under all three acts.

6. No unfairness flows from placing the burden of proof in show cause proceedings on the utility building the reactor. Particularly where, as here, the issue is whether a nuclear plant is being built in accordance with Commission regulations, the company or its contractors are the ones most likely to possess the requisite information and to be aware of the relevant construction details. A rule that places the burden of proving a fact on the party who presumably has peculiar means of knowledge enabling him to prove its truth or falsity in neither novel nor untoward, particularly when the ultimate issue is one of public safety. *Old Ben Coal Corp.* v. *Interior Board of Mine Operations Appeals, supra,* 523 F.2d at 36. See also 9 Wigmore, *Evidence* §2486 (3rd ed.).

In short, we think the arguments pressed by the company, the staff and our dissenting colleague elevate procedural niceties over public safety. We see no legal justification for this. We therefore reaffirm our ruling in ALAB-283 that, in show cause proceedings, the construction permit holder has the burden of proving that it is building its nuclear plant in conformity with that permission and the Commission's safety regulations.[20]

---

[20] Consumers' reads our decision in ALAB-283 to suggest that the "allocation of the burden of proof would be different [*i.e.*, on the staff rather than on the company] if the show cause proceeding involved a license to operate . . . rather than a license to construct a nuclear facility." It believes any such distinction unjustified. (Br. pp. 12-14).

Where the evidentiary burden lies in a case involving the possible withdrawal of an operating license was not in issue in ALAB-283 and, obviously, is not before us now. Accordingly, we need not and do not reach that issue. We reserve judgment for a case which presents it.

## II

1. The parties express concern that our burden of proof ruling might be understood to require a show cause respondent to "disprove unsubstantiated allegations" and, accordingly, they assert that "[t]he burden should be and is on those contending that the [construction] permit is being violated to make a *prima facie* showing before the applicant is forced to defend."[21] (Their concern is for future cases, not this one. We wish to make clear at the outset that the staff's inspection reports were placed in evidence in this proceeding, that the company was aware of the quality assurance violations of which it was accused, and that a *prima facie* case concededly had been established against Consumers.[22])

We agree that a show cause respondent is entitled to know what it is charged with and to be presented with the evidence against it before it is called upon to respond with evidence in its own behalf. The parties are mistaken in their belief that our ruling on burden of proof requires a different result. To the contrary, the reference in ALAB-283 to our *Maine Yankee* decision (see NRCI-75/7 at 17) was intended to indicate that the rule on burden of proof in a show cause proceeding operated just as it does in construction permit proceedings. On the page of that decision to which we made express reference, we said (6 AEC at 1018):

> while the applicant has the ultimate burden of proof on the question of whether the permit or license should be issued, a party which contends that, for a specific reason, the permit or license should be denied has the burden of going forward with evidence to buttress that contention. Once it has introduced sufficient evidence to establish a *prima facie* case, the applicant must assume the burden of proof on the contention.

Stated another way, the term "burden of proof" applies not to the initial burden of going forward with evidence but to the ultimate burden of persuasion. And *Maine Yankee* certainly lends support to the argument that a party in a show cause proceeding who seeks the suspension or modification of a construction permit has the obligation to make out a *prima facie* case for doing so based on competent evidence. Only after that had been done would the respondent company be required to bear the ultimate burden of proof; *i.e.*, to

---

[21] See, Consumer's brief, p. 14-15; staff br. p. 5.

[22] App. Tr. 12-13:

MR. FARRAR: "Why don't the [Staff] inspection reports themselves constitute or carry the Staff's or whoever has the burden of going forward?"

MR. MILLER: [Counsel for Consumers] "In this instance under my formulation it was clear, although the licensee went first in the proceeding, that the Staff in fact satisfied the *prima facie* showing I would require to bear its burden, to avoid a dismissal."

Given the history of this case, that concession is hardly surprising. See ALAB-283, *supra*, NRCI-75/7 at 13 and cases cited at fn. 6, *ibid.*

persuade the Board by a preponderance of the evidence that the relief demanded was in fact not appropriate. And we also recognize that this is the practice followed in analogous cases under the coal mine safety statutes[23] and the pesticide laws.[24]

Nevertheless, we overlooked in ALAB-283 (and the parties did not call our attention to) the Commission's most recent direct pronouncements on the burden of going forward and the ultimate burden of persuasion. In *Consumers Power Company* (Midland Plant, Units 1 and 2), CLI-74-5, 7 AEC 19, 31 (1974), the Commission said that traditional concepts of those burdens (on which our 1973 *Maine Yankee* decision relies) "are not necessarily completely dispositive in agency licensing proceedings." In that construction permit proceeding, the Commission went on to indicate that it would have been sufficient to trigger the utility's ultimate burden of persuasion on intervenor's energy conservation contentions had the latter but come forward with evidence "sufficient to require reasonable minds to inquire further" on those issues. 7 AEC at 32, fn. 27. The Commission cited in support of its ruling the District of Columbia Circuit's similar holding in *United Church of Christ* v. *F.C.C.*, 425 F.2d 543, 546-50 (1969).

To be sure, that Commission decision was not made in the context of a "show cause" proceeding. It also involved National Environmental Policy Act issues rather than radiological health and safety questions. Be that as it may, we

[23] Precisely this procedure is followed in cases under section 105(a) the Federal Coal Mine Health and Safety Act of 1969, 30 U.S.C. §815(a). A company called upon to show why its right to operate should not be curtailed for violation of applicable safety regulations bears the ultimate burden of proof of compliance, but the initiator of the proceeding must first establish a *prima facie* violation before the company need respond. *Old Ben Coal Corp.* v. *Interior Board of Mine Operations Appeals, supra,* 523 F.2d at 39-40 (1975). As the Seventh Circuit observed in that case, this construction "accords with the intent of Congress as expressed in the following Committee comment on section 7(c) of the Administrative Procedure Act (now codified as 5 U.S.C. §556(d)): 'That the proponent of a rule or order has the burden of proof means not only that the party initiating the proceeding has the general burden of coming forward with a *prima facie* case but that other parties, who are proponents of some different result, also for that purpose have a burden to maintain.' Sen. Doc. No. 248, 79th Cong., 2nd Sess., 258, 270 (1946)."

[24] In Environmental Protection Agency proceedings involving health and safety questions under the pesticide laws, as we noted, the ultimate burden of proof is always on the company to prove entitlement of its product to registration. But the allocation of the initial burden of going forward varies with the nature of the case and the issues presented. Thus, for example, the EPA rules place the burden of going forward on the company where the hearing arises from the company's objection to the denial of a new application for registration. 40 C.F.R. §164.80(a). But where the EPA staff or an intervenor proposes that an existing registration be cancelled or its classification changed, "the proponent of [that proposal] has the burden of going forward to present an affirmative case ...." *Ibid.* Finally, where the Administrator himself calls for an investigatory hearing at which stated issues leading to possible deregistration are to be studied (7 U.S.C. §136d(b)(2)(Supp. II), 40 C.F.R. §164.23), the agency staff "has the burden of going forward to present an affirmative case as to the statement of issues." §164.80(a), 164.2(r).

are reluctant to conclude at this juncture and on this record that an intervenor must bear a heavier burden when alleging health and safety violations than when asserting environmental mistakes.[25]

These considerations—together with the "advisory" nature of this opinion (see p. 103, *supra*)—incline us to caution. We therefore rule that to withstand a respondent's motion to dismiss a show cause proceeding, the staff (or intervenor if there be one) must at the minimum come forward initially with evidence sufficient to cause a reasonable licensing board to inquire further. Such a demonstration of a legitimate basis for further inquiry requires the respondent to satisfy its burden of proof, *i.e.*, to persuade the Licensing Board that no sanctions against it are warranted based on that evidence. Whether in any given situation the evidence necessary to trigger respondent's burden of proof must be the equivalent of a *prima facie* case, however, is matter best resolved on the facts of an actual case presenting the question. We therefore reserve judgment on this issue until that case presents itself. (As we observed earlier, evidence sufficient to constitute a *prima facie* case against the utility company was concededly introduced in this proceeding.[26])

2. Finally, in the event we reject its argument, the company asks us to certify the question of burden of proof in show cause proceedings to the Commission. (The staff, while not endorsing the request, offers no objection.) We decline to do so. Information supplied at our behest in the appendix to the staff's brief reveals that, since January 1, 1970, only one other "show cause" proceeding involving a construction permit or an operating license has been referred to a licensing board hearing. In the circumstances, it is our judgment that the issue does not merit certification under Commission standards. 10 C.F.R. §2.785(d). In any event, the Commission is routinely made aware of all our decisions and will be free to review our conclusions here if it wishes to do so.

---

On reconsideration, ALAB-283 *clarified;* motion to certify *denied.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

---

[25] *Cf., Citizens for Safe Power* v. *N.R.C.*, 525 F.2d 1291, 1302-03 (D.C. Cir. 1975) (concurring opinion of Chief Judge Bazelon).

[26] See note 22, *supra.*

## DISSENTING OPINION OF DR. QUARLES

In this decision, my colleagues have agreed that our earlier opinion in ALAB-283 warrants clarification. But they nevertheless have affirmed the conclusion we previously reached.

On reconsideration and further reflection, I concur in my colleagues' discussion of the burden of going forward; but I find their ultimate position on the burden-of-proof question to be contrary to applicable legal requirements and not called for in the interest of sound public policy. I must therefore respectfully dissent.[1]

A. 1. It is clear—and it has not been seriously disputed by any party—that the Administrative Procedure Act (APA), 5 U.S.C. §551 *et seq.*, applies to this show-cause proceeding as it does to all Commission adjudicatory proceedings. Section 181 of the Atomic Energy Act, 42 U.S.C. §2231, makes the APA applicable to "all agency action" under the Atomic Energy Act;[2] agency action is defined to include, *inter alia*, "the whole or a part of an agency . . . order . . . [or] sanction." 5 U.S.C. §551(13), which is incorporated by reference into 42 U.S.C. §2231. An agency "sanction" is defined by the APA as including "the whole or a part of an agency . . . requirement, revocation, or suspension of a license." 5 U.S.C. §551(10). The potential consequences of this proceeding clearly fall within the scope of the term "sanction."[3]

Given the APA's applicability to this proceeding, the burden-of-proof question is governed by the particular terms of the APA bearing on that question. Section 7(c) of that Act, 5 U.S.C. §556(d), provides that:

> Except as otherwise provided by statute, the proponent of a rule or order has the burden of proof.

Similar, although not identical, language appears in the Commission's Rules of Practice (10 CFR §2.732):

> Unless otherwise ordered by the presiding officer, the applicant or the proponent of an order has the burden of proof.

In the normal proceeding involving an application for a construction permit or an operating license, the burden of proof is thus on the applicant for such

---

[1] I agree with my colleagues that no certification to the Commission is warranted. This decision is, of course, subject to Commission review under 10 CFR §2.786.

[2] The majority asserts that the APA is not dispositive of the burden of proof but rather yields to the Atomic Energy Act (p. 105, *supra*). By virtue of Section 181 of that Act, provisions of the APA are incorporated as provisions of the Atomic Energy Act. That being so, the statutory reallocation permitted by the APA must be more specific than would be the case if the APA were not so incorporated.

[3] In addition, Section 186 of the Atomic Energy Act, 42 U.S.C. §2236, specifically requires the Commission to "follow the procedures of section 9(b) of the Administrative Procedure Act [5 U.S.C. §558(b)] in revoking any license."

permit or license; that applicant is in fact the "proponent" of an order authorizing the issuance of such permit or license. In a show-cause proceeding such as this one, however, there is in fact no "applicant." Consumers Power Co. has obtained its construction permit, and it is not yet an operating license applicant. What is being sought is an order revoking or modifying an outstanding permit or license; the proponent of such an order is the staff (which, pursuant to 10 CFR §2.202, has issued the show-cause order) or the intervenor (which, pursuant to 10 CFR §2.206, has successfully caused the staff to issue a show-cause order). Under both the APA and the Commission's rules, therefore, the burden in such a situation would fall on the staff or intervenor unless an exception to the general rule were found to be applicable.[4] In the only prior Commission ruling on this question, a hearing examiner placed the burden on the staff in a case arising after issuance of the license in question. *New York Shipbuilding Corp.*, 1 AEC 707 (1961), reversed on other grounds by Commission, 1 AEC 842 (1961).

2. In ALAB-283, this Board found that a statutory exception governed the burden-of-proof question, and my colleagues here have reiterated that conclusion. The statutory exception is said to be derived from the Atomic Energy Act—not by virtue of any express terms therein but rather as a necessary consequence of the two-step licensing process established thereby.

Section 185 of the Act, 42 U.S.C. §2235, clearly contemplates the two-step licensing process. Prior to operating a nuclear plant, an applicant must obtain both a construction permit and an operating license. At both the construction-permit and operating-license stages, the burden of proof is on the applicant—i.e., the proponent of the order in question. But, beyond these discrete stages, ALAB-283 went on to place the burden of proof on the licensee with respect to all compliance questions arising in the interim between issuance of a construction permit and an operating license:

> . . . we cannot perceive why the legislature would have wanted that burden shifted elsewhere if a question of compliance [with applicable Commission regulations] arises in the intervening construction phase.

NRCI-75/7 at 17.

In support of that proposition, ALAB-283 placed strong reliance on a case arising under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), 7 U.S.C. §135, where the court had remarked that "we see no reason why the location of the burden of proof should depend on the timing of the [agency's] first awareness of a compliance problem . . . ." *Stearns Elec. Paste Co.* v *E.P.A.*,

[4] I need not here treat whether the presiding-officer exception authorized by 10 CFR §2.732 is, or must be, co-extensive with the statutory exception authorized by the APA. For here, the presiding officer (*i.e.*, the Licensing Board) did not seek to invoke any exception to the general rule, but imposed the burden of proof on the staff and intervenors as proponents of a revocation order. LBP-74-54, 8 AEC 112 (1974). As discussed *infra*, my colleagues believe that a statutory exception to the APA is applicable.

461 F.2d 293, 305 n. 38 (7th Cir. 1972). My colleagues here continue to cite that case. While the court may have correctly interpreted the statute in question—its ruling was in accord with extensive legislative history which it cited—I am now convinced that this case is inapposite to the question before us, the burden of proof in a show-cause proceeding under the Atomic Energy Act.[5]

Under FIFRA, the burden of proof which the *Stearns* court allocated to the manufacturer involved only a showing that a product is effective and safe when used as directed on the label. This positive requirement is far narrower than the negative proof which ALAB-283 (and my colleagues here) would require from licensees. Unlike here, where the licensee would be called upon to relitigate questions already considered in a hearing, it involved a question which had not previously been subjected to any adjudicatory consideration. Moreover, the particular statutory provisions involved were specifically designed to alleviate the situation where (prior to the statute's amendment) a potentially dangerous product was permitted to be marketed during the period when the Government was developing the data necessary to remove it from the market. No comparable danger attends the continued effectiveness of an NRC construction permit. See *Georgia Power Co.* (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, NRCI-75/9 404, 413 (September 24, 1975); *cf.* 10 CFR §2.202(f).

In this decision, my colleagues also rely on a case arising under the Federal Coal Mine Health and Safety Act of 1969, where the court placed the burden of proof on a coal mine operator whose mine had been shut down by a safety inspector through an "imminent danger" order. *Old Ben Coal Corp.* v. *Interior Bd. of Mine Operations Appeals*, 523 F.2d 25, petition for rehearing denied, 523 F.2d 39 (7th Cir. 1975). But there, unlike here, a specific regulation allocated the burden of proof to the mine operator (43 C.F.R. §4.587). The question presented was whether the regulation was inconsistent with the APA, and *the court found particular language* in the Coal Mine Safety Act which enabled it to conclude that the APA's statutory-exception language was applicable. The Atomic Energy Act includes no comparable language.

Indeed, the situation is to the contrary. Neither FIFRA nor the Coal Mine Safety Act has any equivalent to the terms of §185 of the Atomic Energy Act, which provide that a construction permit "is deemed to be a 'license' " for all purposes other than certain ones not pertinent to the allocation of the burden of proof in a show-cause proceeding. This provision clearly indicates that the construction-permit proceeding and subsequent issuance of the construction permit is a discrete step, and not a continuing action requiring the burden of proof to remain with the applicant. It negates any inference that the existence of

[5] Both ALAB-283 and my colleagues here also cite *Environmental Defense Fund, Inc.* v. *Ruckelshaus*, 439 F.2d 584 (D.C. Cir. 1971), another case arising under FIFRA which in my opinion is inapplicable to the present situation for much the same reasons as *Stearns*.

the two-step process necessarily must be construed as a statutory allocation of the burden of proof to other than the proponent of an order. In that regard, it is significant that where the Atomic Energy Act makes inapplicable a provision of the APA, it does so explicitly. See Section 191a. of the Atomic Energy Act, 42 U.S.C. 2241(a).

In sum, my colleagues concede the rationale of ALAB-283 requires that a statutory exception to the normal burden-of-proof rule be found. They perceive such an exception not in any express statutory terms but rather in the necessary implications of a statutory policy. I see no such necessary implications. Indeed, the Act appears expressly to reject the theory founded upon the two-step licensing procedure and to provide instead for an equivalency in the treatment of construction permits and operating licenses and the procedures incident to show-cause proceedings with regard to either. That being so, I would apply the normal burden-of-proof rule of the APA.

3. One area in which the burden-of-proof discussion in ALAB-283 is unclear, if not incorrect, is in its failure to acknowledge the differing perceptions of the term "burden of proof." That term is, of course, the one used both in the APA and in NRC regulations. But *Black's Law Dictionary* (Rev. 4th ed., p. 246) indicates that it can be used to mean both "the duty of producing evidence as the case progresses" and "the duty to establish the truth of the claim by preponderance of the evidence." The first meaning, in my view, should more properly be denominated as the "burden of going forward." But I believe the term as it was used in ALAB-283, while contemplating only the second meaning, is susceptible of interpretation as also comprehending the first. My colleagues have apparently recognized this lack of clarity in ALAB-283 and, in their opinion, have expressed views on the "burden of going forward" with which I generally agree.

In our own licensing decisions, we have differentiated between the two concepts. In the construction-permit proceeding involving the same reactors under review here, we stated:

> The ultimate burden of proof on the question of whether the permit or license should be issued is, of course, upon the applicant. But where, as here, one of the other parties contends that, for a specific reason . . . the permit or license should be denied, that party has the *burden of going forward* with evidence to buttress that contention. Once he has introduced sufficient evidence to establish a *prima facie* case, the burden then shifts to the applicant who, as part of his overall burden of proof, must provide a sufficient rebuttal to satisfy the Board that it should reject the contention as a basis for denial of the permit or license.

*Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-123, 6 AEC 331, 345 (1973).[6]

It is very likely that the term "burden of proof" as used in the APA was intended to include the "burden of going forward" as discussed by us in ALAB-123. In treating the term as used in the APA, the Attorney General, referring to a portion of the legislative history of the APA, opined that

> There is some indication that the term "burden of proof" was not employed in any strict sense, but rather as synonymous with the "burden of going forward." [*Attorney General's Manual on the Administrative Procedure Act*, 1947, at p. 75.]

In support of that conclusion, the Attorney General cited a statement from the Senate Report on the APA:

> That the proponent of a rule or order has the burden of proof means not only that the party initiating the proceeding has the general burden of coming forward with a *prima facie* case but that other parties, who are proponents of some different result, also for that purpose have a burden to maintain.[7]

The scheme outlined in ALAB-123 is, in my view (as well, apparently, as that of my colleagues) equally applicable to this show-cause proceeding. The licensee previously had met its burden of demonstrating its entitlement to the construction permits. When the staff or another party asserts that the construction permits should be taken away or limited, it must come forward with at least some showing of evidence which would demonstrate that such result is warranted. That burden is not satisfied *solely* by the issuance of a show-cause order (unless, of course, no response were submitted to that order, *Mistrot M. Sullivan, d/b/a Southwestern Radiological Service Co.*, 2 AEC 1 (Hearing Examiner, 1962)). Rather, some affirmative showing is required. Only after that showing has been made does the burden of going forward shift to the licensee. After the licensee has come forward with its case (and after any rebuttal evidence which may be received), it is for the board to determine the result which a preponderance of the evidence suggests should obtain.

It is at that stage that the "burden of proof," as that term should properly be interpreted, comes into play. At that stage, where credible evidence has been

---

[6] Later in that same proceeding, the Commission indicated that at least in some circumstances, something less than a *prima facie* case would have to be shown by intervenors. CLI-74-5, 7 AEC 19, 32 n. 27 (1974). But an "affirmative showing" must in all cases be made. See further discussion, p. 119, *infra.*

[7] S. Rept. 79-752, reprinted in Administrative Procedure Act, Legislative History, U. S. Government Printing Office, 1946, at p. 208. The same language appears in House Report 79-1980, reprinted in same volume as the Senate report, at p. 270.

introduced on both sides of the question, the proponent of the order should properly have the burden of demonstrating, by a preponderance of the evidence, that the particular points which have been raised are sufficiently serious to undercut the previous consideration given to the question and, as a result, to justify the abrogation or limitation of the outstanding license. It is true, of course, that, as we pointed out in ALAB-283—in a statement which logically should apply only to "burden of proof" in its ultimate sense, but to which ALAB-283 may have accorded broader implications—"[w]hich party bears the evidentiary burden becomes a significant question . . . only where the evidence on an issue is evenly balanced or if the trier is in doubt about the facts." NRCI-75/7 at 18. In a practical, as distinguished from a theoretical, sense this situation is unlikely to occur in a licensing hearing. The only really significant burden question which is likely to arise is as to which party has the burden of "going forward." As to that, I think it clear that, under the APA and Commission regulations, the proponent of an order has that burden. To the extent that ALAB-283 implied a different result, I agree with my colleagues that it is an incorrect application of governing legal principles.

4. As is apparent, I would support the result reached by the Licensing Board on the burden-of-proof question. In its well-reasoned opinion, that Board extensively analyzed that question as it had arisen in show-cause proceedings not only before the AEC but also before other administrative agencies—in particular, the Federal Communications Commission, the Federal Maritime Commission, the Board of Immigration Appeals, the Civil Service Commission, the Federal Trade Commission, the Civil Aeronautics Board, and the Securities and Exchange Commission (as well as the general discussion in K. Davis' *Administrative Law Treatise*).

In ALAB-283, however, we discounted as "not material" the cases arising in other agencies cited by the Licensing Board, on the ground that they "are decisions under different statutes administered by other agencies which, moreover, turn on economic rather than public health and safety considerations." NRCI-75/7 at 18. The *Stearns* case, and the *Old Ben* case on which my colleagues rely here, also were decisions under different statutes administered by other agencies. And while they may have involved health and safety considerations, they scarcely did so any more than *Matter of Susott*, 5 CAB 119 (1941), one of the cases cited by the Licensing Board involving a CAB show-cause proceeding on the question of suspension or revocation of an airline pilot's certificate.[8]

[8] It is true that the F.C.C. case relied on by the Licensing Board involved an economic matter. But it should be recognized that when Congress added the civil penalty provision (which is applicable in many show-cause proceedings) to the Atomic Energy Act, it used F.C.C. rules on this subject as a guide. See Hearing on "AEC Omnibus Legislation-1969," Joint Committee on Atomic Energy, September 12, 1969, at p. 29.

On reconsideration, I have given some weight to the burden-of-proof holdings of these cases. The distinction between economic and public-health-and-safety questions may be a valid one, but I am aware of no authority which would require that such distinction *per se* be used as a basis for allocating the burden of proof in a proceeding, absent some more specific statutory basis or expression of Congressional intent. Indeed, it would appear that even when public health and safety is involved, as in some cases involving the suspension or revocation of a pilot's certificate, that burden is on the government. See also *McKee* v. *Bradway*, 19 Ad. L. 2d 715 (CAB 1966); *Leyden* v. *FAA*, 315 F. Supp. 1398 (E.D.N.Y. 1970); *cf. Day* v. *NTSB*, 414 F.2d 950 (5th Cir. 1969), where the burden was put on the pilot in a situation *where § 7(c) of APA was not applicable and where a regulation specifically placed the burden on such pilot.*

5. If one begins with the proposition that the initial burden of going forward in a show-cause proceeding is on the staff or an intervenor, the next question is the extent to which those parties must go to satisfy that burden. In civil litigation, a party with the burden of going forward must establish a "*prima facie* case"—*i.e.*, a case which, if not rebutted, leads to the result sought by the proponent thereof. See definition in *Black's Law Dictionary*, Rev. 4th ed., at p. 1353. But, as the Commission has indicated in another context, "[e]stablished rules of burden of proof governing conventional civil litigation are not necessarily completely dispositive in agency licensing proceedings where affirmative public interest findings are requisite." CLI-74-5, *supra*, 7 AEC at 31. In that case, the Commission required the intervenors to come forward with an "affirmative showing" which is "sufficient to require reasonable minds to inquire further." *Id.* at 32. See also *United Church of Christ* v. *FCC*, 425 F.2d 543 (D.C. Cir. 1969). I find that "affirmative showing" to be appropriate in a show-cause proceeding such as this: the staff or intervenors must come forward with an affirmative showing which is sufficient to cause a reasonable licensing board to inquire further—*i.e.*, a legitimate basis for further inquiry must be demonstrated. Where public health and safety is involved, no higher showing is warranted.[9]

B. In the previous portions of this opinion, I have spelled out my reasons for concluding that, under applicable statutes and regulations, the initial burden of going forward falls upon the staff or the intervenors in this proceeding, and that the burden does not shift to the licensee until the staff or intervenors have put

[9] My colleagues appear to agree but think this case an inappropriate vehicle in which to decide the question. See p. 112, *supra*.

forth an affirmative showing which would cause a reasonable licensing board to inquire further as to whether the license or permit should be revoked, suspended or modified. Over-all, however, after receipt of all evidence, the burden of proof or persuasion remains with the staff or intervenors. I must stress that this result is warranted not only as a matter of law but also as a matter of sound policy.

Thus, the holder of a construction permit has already proven before a licensing board that it has met and will comply with the applicable regulations. The permit (which represents a major financial commitment of the permit holder, as well as substantial public-interest considerations) should not be revoked or limited absent a preponderance of evidence warranting that result. Given these considerations, it is perfectly understandable why the burden should shift from the applicant at the construction-permit stage to the staff or another party thereafter and back to the applicant at the operating-license stage.

In their opinion here, my colleagues advance as one reason for allocating the burden of proof to the construction-permit holder that information relating to compliance with the permit or applicable regulations is in the possession of the permit holder. In this case, that might have been true, but it is not always or perhaps even normally so. For instance, where the staff seeks to impose new requirements on a permit holder, any information justifying such a course of action would likely be in the staff's possession. And if an outside scientist should attempt to have a license modified because of a development of which he (perhaps uniquely) is aware, the relevant information might well be in his control. See *e.g., Consolidated Edison Co. of New York, Inc.* (Indian Point, Units 1, 2, 3), CLI-75-8, NRCI-75/8 173 (August 4, 1975).

My colleagues cite the situation leading to this show-cause order (alleged faulty cadwelding practices) as demonstrating that placing the burden of proof on other than the licensee could result in an unsafe condition, at least in the equipoise situation. To the contrary, the specific circumstances here illustrate the extreme unlikelihood of evidence being evenly balanced. The question was whether the licensee was properly implementing its quality assurance program and whether there was reasonable assurance it would continue to do so.

The alleged violations which triggered the show-cause order concerned cadwelding. These alleged violations dealt with excessive voids, filler material left in the welds and improper storage of the material. Each of these factual matters was capable of positive verification. Thus I fail to see how this evidence could be evenly balanced, and hence a board be forced to permit continued questionable practices.

As for the general quality assurance practices, the charge was that the licensee had failed to provide adequate documentation. The evidence on this question consists of documentation, again susceptible to factual determination.

Assuming the answer to the first issue in the show-cause order[10] is positive, it is inconceivable that the Commission inspection staff would not assure a continuation of proper implementation even if the Board had found the evidence on this issue evenly balanced and had hence decided for the licensee, *i.e.*, that there is a reasonable assurance that such implementation will continue.[11]

Significantly, placing the burden of proof on the staff or another party in a show-cause proceeding involving a construction permit represents no threat to safety. As I have commented, the ultimate burden of proof becomes significant only when the evidence from both sides appears equal. And as I have stressed, in the real world the likelihood of such a development is extremely remote. In a public-interest proceeding such as this one, the licensing board must satisfy itself—irrespective of the allocation of the burden of proof—that any questions which it may have concerning the matter before it are satisfactorily answered. The technical members of a licensing board would undoubtedly probe by questioning the evidence, so a technical, and hence possible safety, consideration could hardly remain in equipoise. That is exactly what the Licensing Board did here.

Even if the very unlikely situation of equipoise prevailed, there would still be no compromise of safety. For, in any event, at the operating license stage, the applicant will have the burden of demonstrating, *inter alia*, that "the facility authorized has been constructed and will operate in conformity with the application as amended and in conformity with the provisions of [the Atomic Energy] Act and of the rules and regulations of the Commission . . . ." Section 185, Atomic Energy Act, *supra*. The circumstance that the burden of demonstrating lack of compliance with the construction permit might lie elsewhere does not vary that obligation one iota. Even if a question were raised in a show-cause proceeding, and the staff or other proponent were unsuccessful in meeting its burden, the same question could be relitigated at the operating license stage and possibly decided adversely to the applicant who then would have the burden of proof; for in no event could a failure of proof in the earlier

[10] "Whether the licensee is properly implementing its quality assurance program, [etc.]."

[11] If read literally, the majority opinion would appear to require an applicant to establish the absolute safety of a plant: "[w]here nuclear power plants are involved, public safety is indisputably better served if a utility must stop construction practices *it cannot prove safe* . . ." (p. 104, *supra*, emphasis supplied). Commission regulations impose no such requirement; indeed, it is generally conceded that there is no such thing as proof of absolute safety. The regulations instead call for a showing of "reasonable assurance that . . . the proposed facility can be constructed and operated . . . without undue risk to the health and safety of the public." 10 CFR §50.35(a)(4).

show-cause proceeding be considered a bar to a later ruling in a proceeding with a different allocation of the burden of proof. See *One Lot Emerald Cut Stones and One Ring* v. *U.S.*, 409 U.S. 232 (1972). It is inconceivable that a licensee who obtained a favorable decision only on the basis of the equipoise situation would risk its operating license later when the burden has shifted back to it. The licensee would undoubtedly take corrective steps to avoid this very real risk.

---

In sum, for the reasons stated, I would reverse the burden-of-proof ruling of ALAB-283 and uphold the ruling of the Licensing Board on this matter.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LPB-76-4

ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Chairman
Dr. Ernest O. Salo, Member
Dr. Marvin M. Mann, Member

In the Matter of

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al.

(Seabrook Station, Units 1 and 2)

Docket Nos. 50-443
50-444

February 4, 1976

Upon motion by intervenors for reconsideration by the Licensing Board of its denial of intervenors' motion for mistrial, the Board rules that the Commission's Rules of Practice, 10 C.F.R. §2.704(d), do not require that a mistrial be declared and the proceedings start *de novo* in the event that a board chairman is changed during the course of an evidentiary hearing.

Motion denied.

RULES OF PRACTICE: LICENSING BOARDS

The hearing officer who receives evidence in a proceeding need not be present to make the decision, so long as the entire record is reviewed by the remaining or successor officers.

RULES OF PRACTICE: EXPERT WITNESSES

The demeanor and conduct of witnesses are normally not important in determining their credibility for the purpose of resolving disputed issues of fact in a Nuclear Regulatory Commission construction permit hearing. What is important is the qualifications of witnesses from experience and training to evaluate, explain and support theories on the basis of data which is in the record.

## MEMORANDUM AND ORDER DENYING RECONSIDERATION OF DENIAL OF MOTION FOR MISTRIAL

By Motion dated October 24, 1975, the Seacoast Anti-Pollution League and the Audubon Society of New Hampshire (Intervenors) request the Licensing

Board to reconsider its October 23, 1975, bench ruling denying said Intervenors' Motion for Mistrial. The Motion for Mistrial was based on the grounds that the Licensing Board as reconstituted was illegal.

By way of background it is noted that in the course of the evidentiary hearing and on October 21, 1975, the then Board Chairman, Daniel M. Head, Esq., announced to the parties that he was leaving the NRC to take a new position with the Federal Energy Administration (FEA). In the ensuing bench conference, Counsel for Applicants disclosed that only the day before he was contacted by an FEA representative regarding Mr. Head's qualifications. Following this bench conference, Applicants' Counsel suggested that, in light of Mr. Head's decision to leave the NRC, the proceedings should be recessed until the arrival of the newly appointed Chairman. Mr. Robert A. Backus, Counsel for Intervenors, joined in these remarks. Hearings were resumed on the following day, October 22, 1975, with the newly-appointed Chairman presiding. Mr. Backus was not present at the proceedings on that day. On October 23, 1975, Mr. Backus in behalf of Intervenors moved for a mistrial on the grounds that the Board as then sitting was illegally constituted. Counsel for Applicants and Staff opposed the Motion.

The gist of the present Motion for Reconsideration of the Board's denial of the Motion for Mistrial is "that it is not proper to change Judges in midstream without declaring a mistrial and starting the proceedings *de novo*" (see Motion, p. 4).

Counsel for Intervenors argues in syllogistic fashion. He makes the following points:

1. The applicable statute is 5 U.S.C. §554(d) of the Administrative Procedure Act (APA).*

2. The employee authorized to make a decision pursuant to Section 554(d) of the APA and the presiding officer appointed pursuant to 10 CFR 2.704(a) are the same.

3. In the instant case the presiding officer is the entire three-member Board by virtue of 10 CFR 2.721(a).

4. Mr. Head was an integral part of any quorum of the Board by virtue of 10 CFR 2.721(d) and therefore is that employee referred to in Section 554(d) of the APA.

5. Since Mr. Head's unavailability is due entirely to his own volitional withdrawal, his unavailability necessitates that the proceeding commence *de novo*, cf. Gamble-Skogmo, Inc., and VanTeslaar cases.†

*Section 554(d) provides: "The employee who presides at the reception of evidence pursuant to Section 556 of this Title shall make the recommended decision or initial decision required by Section 557 of this Title, unless he becomes unavailable to the Agency."

†Gamble-Skogmo, Inc., v. Federal Trade Commission 211 F. 2nd 106. VanTeslaar v. Bender 365 F. Supp. 1007.

The underlying rationale of Counsel's argument is the question of credibility of witnesses. Counsel argues that he attempted to impeach a number of Applicants' witnesses on cross-examination and that, furthermore, in order to evaluate hearsay testimony, one must first determine the credibility of the sponsoring witness.

Counsel also argues that 10 CFR 2.704(d) does not control the instant situation and, indeed, cannot prevail over the specific provisions of 10 CFR 2.721. In support of this argument Counsel points to 10 CFR 2.721(b). That section provides that an alternate chairman may be appointed prior to the commencement of a hearing. He argues that it follows that if an alternate cannot be appointed after the start of a hearing, so none other can.

Intervenors' Motion is opposed by Staff and Applicants. Staff's argument appears on pages 11056-11070 of the transcript and Applicants' on pages 11071-11079. The Board agrees with the arguments put forth by Staff and Applicants and hereby denies Intervenors' Motion for Reconsideration.

We disagree with the basic premise of Intervenors' "syllogism." 5 USC 554(d) (APA) does not apply as is evidenced by a reading of its subpart A, wherein it is provided that "This subsection does not apply—(A) in determining applications for initial licenses; . . ."

Nor can we agree that 10 CFR 2.704(d) does not control. We have two precedents where in the course of an AEC (now NRC) evidentiary hearing a chairman was replaced by another. In the Shoreham case the Licensing Board denied a Motion for a Mistrial expressly relying on Section 191 of the Atomic Energy Act and 10 CFR 2.704 (Commission's Rules of Practice).*

There is also other ample precedent that holds that the same hearing officer who received evidence need not be present to make the decision, so long as the entire record is reviewed. See cases cited by Staff in its oral argument on page 11063 of the transcript. As Staff points out, all but one of these cases involved not only the interpretation of 5 USC 554(d) but also centered on a regulation quite similar to 10 CFR 2.704. That regulation (8 CFR 151.2(e))† states that if the hearing officer becomes unavailable to complete his duties within a reasonable time in connection with any case, another hearing officer shall be assigned to complete the case.

Counsel for Intervenors cites the Gamble-Skogmo, Inc., and VanTeslaar cases (*supra*) as standing for the proposition that, when in the course of an evidentiary hearing where a presiding officer becomes unavailable and where the credibility of witnesses is in issue, the hearing must commence *de novo*.

---

*In the Matter of Long Island Lighting Company (Shoreham Nuclear Power Station Unit 1), Docket 50-322, see Order dated January 28, 1971. See also In the Matter of Wisconsin Electric Power Company et al. (Point Beach Nuclear Plant, Unit No. 2) Docket No. 50-301 where two chairmen were replaced.

†5 *F.R.* 6169.

First, these cases are readily distinguishable. Both cases involved one hearing examiner whereas here we have an examining board of three members, two of whom have been present throughout the entire evidentiary hearing. The Gamble-Skogmo, Inc., case was quasi-criminal in nature involving alleged violations of the Clayton Act and the Federal Trade Commission Act. The VanTeslaar case involved a tort. The instant case is an administrative proceeding involving an application for licensing a nuclear power plant. Furthermore, the cases cited by Staff (*supra*) involve the type of hearing where the credibility of a witness is also in issue.

Secondly, we do not agree that in the instant case the demeanor and conduct of the witnesses are important in determining their credibility for the purpose of resolving disputed issues of fact. The nature of the instant proceeding is such that a direct choice in the personal credibility between witnesses is not capable of being of material assistance.

As Applicant points out, the credibility that is involved here relates far more to theory and analysis of data. Rather than the weighing of personal credibility of witnesses, what is important is the qualification of witnesses from experience and training to evaluate, explain, and support theories on the basis of data which are in the record.

Each expert witness in this proceeding has either submitted a statement of qualifications and experience or training or has undergone a voir dire examination. And though several witnesses have not been expert witnesses, we feel the information they gave relates to important elements of their experience and training and puts them in the same class as expert witnesses.

Accordingly, Intervenors' Motion for Reconsideration of denial of Motion for Mistrial is denied.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

Dr. Ernest O. Salo, Member

Dr. Marvin M. Mann, Member

John F. Frysiak, Chairman

Issued this 4th day of February 1976
at Bethesda, Maryland.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-5

ATOMIC SAFETY AND LICENSING BOARD

Douglas V. Rigler, Chairman
John M. Frysiak, Member
Ivan W. Smith, Member

| | |
|---|---|
| In the Matter of | Docket Nos. 50-346A<br>50-500A<br>50-501A |
| THE TOLEDO EDISON COMPANY and THE CLEVELAND ELECTRIC ILLUMINATING COMPANY | |
| (Davis-Besse Nuclear Power Station, Units 1, 2 and 3) | |
| THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL. | Docket Nos. 50-440A<br>50-441A |
| (Perry Nuclear Power Plant, Units 1 and 2) | February 9, 1976 |

Upon request (treated as a motion) by applicants in antitrust proceeding that the Licensing Board require other parties to comply with criminal conspiracy law procedures requiring designation of the applicant(s) against whom certain evidence is directed, the Licensing Board holds that (1) contrary to the applicants' assertions, the case being made against the applicants is more than essentially one of conspiracy; (2) to the extent that conspiracy has been charged, the applicants have received more than adequate notice of what acts and practices the other parties contend contributed to the conspiracy and the circumstances surrounding the formation of the conspiracy; (3) the conduct of the parties during the first several weeks of the proceedings is evidence of the adequacy of the notice; and (4) applicants are in error as a matter of law with respect to a substantial portion of their argument concerning the lack of procedural distinction between a conspiracy and a combination or an agreement in restraint of trade, and a conspiracy and monopolization.

Motion denied.

## ATOMIC ENERGY ACT: SITUATION INCONSISTENT WITH ANTITRUST LAWS

Situations inconsistent with the antitrust laws include conspiracies, combinations, and monopolies. As a matter of law, joint actions, combinations, and agreements in restraint of trade are different in concept than simple "conspiracy" (*United States* v. *Parke, Davis & Co.*, 362 U.S. 29 (1960); *Klor's* v. *Broadway-Hale Stores*, 359 U.S. 207 (1959); *United States* v. *Paramount Pictures*, 334 U.S. 131 (1948)), and "conspiracy" is not synonymous with monopolization or "combinations to monopolize" (*American Tobacco Co.* v. *U.S.*, 328 U.S. 781 (1946); *United States* v. *Griffith*, 334 U.S. 100 (1948); *United States* v. *Paramount Pictures, supra*).

## MEMORANDUM AND ORDER OF THE BOARD WITH RESPECT TO APPLICANTS' REQUEST FOR CERTAIN PROCEDURAL RULINGS

By Statement of November 25, 1975, Applicants placed in written form their request that "other parties specify, both with respect to their documentary and testimonial evidence, which Applicant(s) the evidence was directed against, . . . ." The basis for this request was "the concern of Applicants' counsel that allegations of predatory practices directed against only one Applicant not be used indirectly as evidence of intent against any of the other Applicants *unless and until their complicity in some overall conspiracy has been established.*" (Emphasis added.) Applicants' Statement, ¶2. As is apparent from a careful perusal of their entire Statement, Applicants choose to cast this proceeding in terms of an attempt on behalf of the other parties to establish that Applicants engaged in an illegal "conspiracy."

Proceeding from the erroneous premise that "conspiracy" charges in these proceedings constitute the sole or the major elements of anticompetitive conduct allegedly leading to the creation or maintenance of a situation inconsistent with the antitrust laws, Applicants request us to require other parties to comply with criminal conspiracy law procedures relating to designation of evidence. For a variety of reasons the request, which we will treat as a motion for purposes of this ruling, must fail.

(1) Despite Applicants' efforts to characterize these proceedings as relating primarily to charges of conspiracy, the detailed pleadings setting forth the nature of the case filed by other parties on September 5, 1975 (two months in advance

of Applicants' November 25, 1975, filing)* lend no support to such characterizations. Likewise, the detailed pretrial briefs of the parties filed November 26, 1975, are not in accord with Applicants' erroneous characterization of the nature of the case being presented against them.

(a) The NRC Staff (Staff), in its reply to Applicants' Statement, specifically states:

> It should be noted that the Staff has not charged Applicants with a conspiracy in this proceeding.[3] Staff's Trial Brief and its earlier pleading, the "Nature of the Case to be Presented by NRC Staff" set forth clearly the legal and factual arguments planned to be made by the NRC Staff with respect to individual and group action. Thus, each Applicant has been advised of the nature of the evidence to be presented by the Staff in those instances where predatory practice evidence is planned to be utilized as to more than one Applicant, it has been so stated. *Although Staff has not characterized the Applicants in this proceeding to be conspirators, the issues and the pleadings that have been filed in this matter clearly set forth the theory that Applicants collectively have the power to exclude and restrict competition in the CCCT area and have used that power.* (Emphasis added.)

[3]Neither has the Board so characterized any of the charges against Applicants. See "Correction to Minutes of Conference Call of November 14, 1975" dated November 19, 1975.

(b) The Department of Justice (Justice), for its part, states:

> The vast preponderance of evidentiary material which the Department intends to place in the record will prove that Applicants engaged in violations of the antitrust laws which did not involve conspiracy.

To the extent that Justice does intend to prove an illegal conspiracy among Applicants, it has made no objection to specifying the Applicant against whom the evidence was directed provided Applicants subsequently are not permitted to object to Justice efforts to connect specific evidence pertaining to an Applicant to concerted action by other Applicants.

(c) The City of Cleveland (City) in its reply of December 3, 1975, likewise points to its Statement of the Nature of the Case to be Presented as setting forth group actions and anticompetitive conduct which may violate the antitrust laws even though these acts would not constitute a "conspiracy." City, however, specifically does cite a conspiracy among Applicants (Answer of City at 6).†

---

*The filing of a Statement of the Nature of the Case is not required by the Commission rules, but was extra relief afforded by the Board at the specific request of Applicants in order to provide a post-discovery outline of the nature of the evidence which would be used in support of the other parties' charges.

†"Cleveland's Statement Of The Nature Of The Case To Be Presented, at page 11, noted that the CAPCO companies conspired to exclude the Cities of Cleveland and Painesville

Footnote † cont'd. on page 130.

(2) To the extent a conspiracy is charged, Applicants have received ample notice of the

> date when any putative conspiracy began, what the purpose of the conspiracy might be, which of the Applicants comprised the confederates, and which of the many alleged anticompetitive practices are considered to have been performed in the furtherance of the "conspiracy."*

The City, the only party specifically charging conspiracy at this point, has identified the formation of CAPCO and the formation of ECAR as the beginning point in the conspiracy.

> It is our contention, and we believe the evidence will amply demonstrate that the CAPCO companies from the very start—when the very start was is difficult for us to ascertain in that we haven't had complete discovery on the information of CAPCO and the formation of ECAR—but from the very start the CAPCO companies . . . acted jointly to exclude public power groups . . .†

Tr. p. 1460-61. City further asserted that individual refusals of membership in CAPCO were pursuant to joint or concerted understandings among Applicants.

All parties other than Applicants have devoted extensive portions of their Trial Briefs and their Statements of the Nature of the Case to be Presented to explaining exactly which acts and actions they would rely upon to demonstrate the joint, as well as individual, exercise of market power, including boycotts, by Applicants. It is fallacious to suggest that Applicants have not been notified with great particularity of the allegations of anticompetitive conduct which make up the alleged situation inconsistent with the antitrust laws.

(3) During oral argument on this procedural question at the Eighth Prehearing Conference held November 26, 1975, the Board put a series of

---

Footnote † cont'd.
from CAPCO. At page 12, Cleveland referred to the:

> concerted effort by the CAPCO companies to prevent municipalities from obtaining membership in CAPCO and thus gaining access to economies of scale and coordinated operations and development.

And at page 21, Cleveland noted:

> At the same time Applicants have conspired to preclude municipal electric systems from joining CAPCO and thus obtaining access to coordinated operations and development and the economies of scale.

Cleveland has further described the unlawful joint action of Applicants at pages 13-24 of its Prehearing Brief."

*Applicants' Statement at 2. This Notice also complies with the relief envisioned by the Court in *Krulewich v. United States*, 336 U. S. 440 (1949) upon which Applicants place strong reliance.

†It was Applicants who represented that discovery limited to post 1965 dates would encompass CAPCO formation activities. Thus, they should not complain that they are insufficiently notified that the conspiracy originated at the start of CAPCO.

questions to counsel for Applicants relating to any distinctions between a "conspiracy" and a "combination" or an "agreement in restraint of trade." Tr. p. 1445; 1461-62. Applicants argued that for purposes of their request, there were no distinctions and, in essence, that the criminal law considerations relating to conspiracy should apply in these proceedings.* To us, it is apparent that Applicants were substantially incorrect as a matter of law and we so hold. *United States v. Parke, Davis & Co.*, 362 U.S. 29 (1960)†; *Klor's v. Broadway-Hale Stores*, 359 U. S. 207 (1959).‡

> Moreover, in the context of the antitrust laws: No formal agreement is necessary to constitute an unlawful conspiracy.§

Also,

> It is not necessary to find an express agreement in order to find a conspiracy. It is enough that a concert of action is contemplated and that defendants conformed to the arrangement.

*United States v. Paramount Pictures*, 334 U.S. 131, 142 (1948). Here we have both an allegation that the CAPCO agreement, as fashioned and implemented, constituted an express agreement in restraint of trade coupled with an assertion that Applicants' parallel courses of action with respect to refusals to wheel or to permit coordinated operation or development except with each other resulted in restraints of trade and combinations to monopolize within the CAPCO area.¶

---

*Applicants appear to have overlooked the decision of the Supreme Court in *Nash v. United States*, 229 U.S. 373, 378 (1913) in which it is stated:

> Coming next to the objection that no overt act is laid, the answer is that the Sherman Act punishes the conspiracies at which it is aimed on the common law footing—that is to say, it does not make the doing of any act other than the act of conspiring a condition of liability. The decisions as to the relations of a subsequent overt act to crimes under Rev. Stat., §5440, in *Hyde v. United States*, 225 U.S. 347, and *Brown v. Elliott*, 225 U.S. 392, have no bearing upon a statute that does not contain the requirement found in that section.

†"The *Bausch & Lomb* and *Beech-Nut* decisions cannot be read as merely limited to particular fact complexes justifying the inference of an agreement in violation of the Sherman Act. Both cases teach that judicial inquiry is not to stop with a search of the record for evidence of purely contractual arrangements. The Sherman Act forbids combinations of traders to suppress competition." 362 U.S. at 44.

‡"In the landmark case of *Standard Oil Co. v. United States*, 221 U.S. 1, this Court read §1 to prohibit those classes of contracts or acts which the common law had deemed to be undue restraints of trade and those which new times and economic conditions would make unreasonable." 359 U.S. at 211.

§*American Tobacco Co. v. United States*, 328 U.S. 781, 809 (1946).

¶We do not hold that these allegations have been proven, for indeed Applicants have not had their turn in rebutting the Staff's evidence nor the charges levied by Justice and the City which are yet to be supported by the introduction of evidence. Our holding herein relates to the Applicants' unsupportable request for instructions governing the procedures in effect during the course of the hearings.

Equally incorrect is Applicants' contention that their arguments relating to delineation of evidence in terms of criminal conspiracy should apply to monopoly situations. Responding to questions from the Board*, Applicants stated that it was incomprehensible to have a monopoly with five companies monopolizing in a given territory and that such a situation would be contrary to the definition of monopoly. Tr. p. 1448, l. 15-25.

> But the monopoly concept goes to a single entity, which in a given relevant market is dominant, has monopoly power. Tr. p. 1449, l. 2-4.

Applicants further contend that if there was a joint monopoly, it was not actionable under Section 2.†

This entire line of argument on behalf of Applicants is so incorrect as to negate any necessity for prolonged analysis of their request. *American Tobacco Co. v. United States*, 328 U.S. 781 (1946); *United States v. Griffith*, 334 U.S. 100, 104-108 (1948); *United States v. Paramount Pictures*, 334 U.S. 131, 154, 155, 160, 165, 167-173 (1948).‡ The Issues in Controversy set forth so early in these proceedings clearly contemplate situations inconsistent with the antitrust laws resulting from monopolization and combinations or conspiracies to monopolize and the relevant market is postulated to be the combined CCCT territories.

(4) Applicants' request for procedural relief was filed on the very eve of hearing. It was apparent that the most immediate consequence of our failure to grant the requested relief pending more comprehensive consideration would be that each Applicant's individual counsel might have to remain in attendance in order to guard against allegations of anticompetitive conduct which could be imputed to his particular client. See Tr. p. 1454-55. In light of our preliminary determination that the request lacked merit, this consequence did not seem so burdensome as to require deferral of hearings pending further review of the

---

*THE BOARD: Do you draw any distinction between a conspiracy or combination and monopolization? Suppose the idea [is] the Applicants are monopolizing transmission or monopolizing generation within the CCCT territory?

APPLICANTS' COUNSEL: I would assume if it is monopolization we are talking about section 2, not section 1, and that would be against the individual Applicant in any event.

THE BOARD: Why, if they are charging these companies combined to monopolize transmission or generation within the CCCT territory?

APPLICANTS' COUNSEL: . . . it would be hard for me to understand how you have a monopoly because you have five of them doing that in that territory. That is contrary to the definition of monopoly . . . Tr. p. 1448.

†See Tr. p. 1448, l. 9-10 for further illustration that Applicants misunderstood the applicability of Section 2 to joint monopolization of a relevant market.

‡"In this connection there is a suggestion that one result of the conspiracy was a geographical division of territory among the five majors. We mention it not to intimate that it is true but only to indicate the appropriate extent of the inquiry concerning the effect of the conspiracy in theatre ownership by the five majors." 334 U.S. at 172 under discussion of monopoly.

question by the Board. Indeed, although we were sensitive to the considerable expense which some Applicants apparently intended to incur by having individual counsel as well as group counsel present during the course of the hearings, this expense pales in comparison to the expenses attendant upon delay in completing these proceedings. Applicants have impressed upon us the need for expedition not only because of the necessity of meeting future power needs in the CCCT area but because construction costs for these units continue to increase on an almost daily basis. Thus, even in the event the Board were to have agreed with Applicants upon mature consideration of their request, Applicants would be far less prejudiced by having the hearings commence promptly with having multiple counsel in attendance than by having the hearings postponed. With that consideration in mind, we commenced hearings on December 8, 1975.

In the interval between the commencement of hearings and the issuance of this decision, the Board has had an opportunity to observe the trial procedures adopted by Applicants and we are able from actual experience to understand the degree to which participation by multiple counsel is necessary or has been utilized by the various parties. With respect to fact witnesses, we have permitted counsel for each Applicant to question the witness, but multiple examination has not proved necessary for many of these witnesses. To the extent that more than one Applicant has questions for a witness, there nonetheless has been opportunity to consolidate this questioning among two or more counsel.* Further, we have observed that Applicants' counsel are able to make a fair evaluation of the necessity of attending the testimony of any given witness. In fact, counsel for certain Applicants have not been present for substantial portions of the hearings.

We also have observed that at the completion of its case, the Staff had adhered substantially to the outline presented in its Statement of the Nature of the Case and in its Trial Brief. Thus, we are unable to ascertain any basis for Applicants to claim that they were surprised or were uninformed as to the nature of the evidence introduced. Moreover, we have before us now the CAPCO memorandum of understanding which, in its implementation, all parties charge to be a basis of joint, concerted, anticompetitive conduct. Also, we now have before us evidence of what the Staff asserts to be the exercise of joint market power in the relevant markets designated by the Staff. Finally, understanding as they must the other parties' contentions that the CAPCO group from its outset had substantial market power and that that market power was exercised by members of the group in an anticompetitive fashion, sufficient notice has been provided as to the other parties' basis for charging that the conduct of one Applicant can be chargeable against other CAPCO members dedicated to the alleged exclusionary objectives of the group.

In conclusion, we hold:

*We have, of course, inherent authority to prevent duplicative and repetitious cross-examination. 10 CFR Section 2.718(e); Section 2.757(b)(c)(d).

(1) That it is Applicants alone who seek to characterize the case being made against them as essentially one of "conspiracy." This error originated as early as telephone conference call of November 14, 1975.* The board, however, immediately corrected Applicants in their misapprehension that the Board made any characterization as to the nature of these proceedings.†

(2) To the extent that "conspiracy" has been singled out as an element in the "situation" alleged in these proceedings, Applicants have received more than adequate notice of what acts and practices other parties contend contributed to the conspiracy and the circumstances surrounding the formation of the conspiracy.

(3) Our conclusions with respect to the adequacy of notice have been borne out by our observations of the conduct of these proceedings during the first several weeks thereof.

(4) Applicants are in error as a matter of law with respect to a substantial portion of the argument they presented in support of the relief they request. The errors of law are so fundamental and so extensive with respect to contentions of essential similarity between "conspiracy" and all other forms of joint action or restraints of trade, and "conspiracy" and monopolization or combinations to monopolize as to render prolonged discussion unrewarding and unnecessary. See citations in Section 3, *infra.*

For all the foregoing grounds, Applicants' Motion is hereby denied.

ATOMIC SAFETY AND
LICENSING BOARD

John M. Frysiak, Member

Ivan W. Smith, Member

Douglas V. Rigler, Chairman

Dated at Bethesda, Maryland
this 9th day of February 1976.

*"He [the Chairman] added that this proceeding involves a joint applicant for a nuclear facility [and it therefore was a general conspiracy case], . . ."

†Correction dated November 19, 1975, to minutes of conference call of November 14, 1975.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-6

ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman
Lester Kornblith, Jr., Member
J. Venn Leeds, Jr., Member

In the Matter of

ILLINOIS POWER COMPANY

(Clinton Power Station,
Units 1 and 2)

Docket Nos. 50-461
50-462

February 20, 1976

Messrs. Peter V. Fazio, Jr. and Christopher B. Nelson, Chicago, Illinois, for the applicant, Illinois Power Company.

Mr. Robert W. Dodd, Champaign, Illinois, for the joint intervenors, Salt Creek Association, et al.

Mr. Charles A. Barth, for the United States Nuclear Regulatory Commission.

Upon application for construction permits for Clinton Station, Units 1 and 2, the Licensing Board issues its initial decision, making determinations of fact and law, and authorizing the issuance of construction permits for both units.

TECHNICAL ISSUES DISCUSSED: use of austenitic stainless steel.

## INITIAL DECISION
## (Construction Permit)

## I. PRELIMINARY STATEMENT

On October 30, 1973, pursuant to Section 103 of the Atomic Energy Act of 1954, as amended, the Atomic Energy Commission, the predecessor of the

Nuclear Regulatory Commission, (Commission),[1] docketed the Application of the Applicant to construct two nuclear reactors designated as the Clinton Power Station, Units 1 and 2, to be located in Harp Township, DeWitt County, Illinois. The proposed plant will consist of two identical boiling water reactors, each with a gross electrical power output of approximately 991 megawatts and a thermal power rating of 2,894 megawatts thermal.

This proceeding involves the radiological health and safety considerations specified in the Notice of Hearing on Application for Construction Permits ("Notice of Hearing") published in the *Federal Register* on December 7, 1973 (38 *Fed. Reg.* 33789).

On May 28, 1975, a notice was published in the *Federal Register* (40 *Fed. Reg.* 23123) setting the date for the convening of an evidentiary hearing on environmental and site suitability matters. The hearing was held in Clinton and Champaign, Illinois, between June 17 and July 3, 1975, and involved the consideration of contested environmental issues as well as those issues specified in the Notice of Hearing. On September 30, 1975, this Board issued its Partial Initial Decision: Environmental and Site Suitability Determinations ("Partial Initial Decision"), which resolved those issues (LBP-75-59, NRCI-75/9 579-630). The Partial Initial Decision constitutes a portion of this Initial Decision.

After a finding was made by this Board that the Clinton site was suitable from the standpoint of radiological health and safety considerations, pursuant to 10 CFR §50.10(e)(2), the Commission's Director of the Division of Reactor Licensing issued to Applicant a Limited Work Authorization ("LWA") noticed in the *Federal Register* on October 9, 1975 (40 *Fed. Reg.* 47544).

On December 17, 1975, the Order Setting Evidentiary Hearing on Further Health and Safety Issues was published in the *Federal Register* (40 *Fed. Reg.* 58517). This second phase of the hearing was held in Decatur, Illinois, on January 7 and 8, 1976. At the hearing, the Applicant and the Regulatory Staff of the Commission ("Staff") presented written and oral testimony on several questions which had been raised by this Board and communicated to the parties prior to the hearing.

Although this proceeding is contested by the Salt Creek Association, 61 named members and three individuals acting on their own behalf (collectively referred to as the "Joint Intervenors"), all of the issues raised by the Joint Intervenors in their Petition to Intervene which had not been withdrawn prior to the environmental and site suitability hearing, were resolved in the Partial Initial Decision of September 30, 1975. At the second phase of the hearing on January 7 and 8, 1976, the Joint Intervenors presented no direct testimony on any radiological health or safety issues and conducted no cross examination of

[1] Reference herein to the "Commission" shall mean the Atomic Energy Commission for events occurring on or before January 18, 1975, and the Nuclear Regulatory Commission for events occurring thereafter.

witnesses. Mr. Robert Dodd, counsel for the Joint Intervenors, and Mr. C. Lee Baker, an individual intervenor and president of the Salt Creek Association, made short statements for the record. In addition, three limited appearances were made by members of the public. The State of Illinois, Department of Public Health, Division of Nuclear Safety, expressed concern over the use of type 304 stainless steel in some of the piping proposed to be used at the Clinton Station. While the Applicant had addressed this issue in its PSAR (p. 5.2-16), the Board asked the parties to provide a status report on the use of this material. Additional evidence was received from both the Applicant and the Staff. The Board has reviewed the record carefully and considered the comments of the representative of the State of Illinois and the others who made limited appearances in arriving at the conclusions reached herein.

In its Partial Initial Decision, the Board held that the appropriate action to be taken was the issuance of the construction permits for the facility subject to specified conditions for the protection of the environment, contingent upon the Board making appropriate findings as a result of the evidentiary hearing on radiological health and safety issues. Although no radiological health and safety issues were in controversy at this hearing, the Board will consider and initially decide, as issues in this proceeding, Items 1 through 4 specified below as a basis for the issuance of construction permits to the Applicant:

1. Whether in accordance with the provisions of 10 CFR §50.35(a):

(a) The applicant has described the proposed design of the facilities including, but not limited to, the principal architectural and engineering criteria for the design, and has identified the major features or components incorporated therein for the protection of the health and safety of the public;

(b) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;

(c) Safety features or components, if any, which require research and development have been described by the applicant and the applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components; and

(d) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facilities, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facilities can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

2. Whether the applicant is technically qualified to design and construct the proposed facilities;

3. Whether the applicant is financially qualified to design and construct the proposed facilities; and

4. Whether the issuance of permits for construction of the facilities will be inimical to the common defense and security or to the health and safety of the public.

In addition, the Board raised several questions on its own initiative which were addressed by the parties and are discussed herein.

The record in this construction permit proceeding consists of all material pleadings filed by the parties, the transcripts of the prehearing conferences of April 4, 1974, and April 29, 1975, the transcripts of the evidentiary hearings held between June 17 and July 3, 1975, and on January 7 and 8, 1976, and the exhibits submitted by the Applicant and Staff at those evidentiary hearings including the five supplementary exhibits submitted by the parties after the close of the evidentiary hearing on environmental matters. The January 1976 hearing on radiological health and safety matters has been considered a continuation of the June–July 1975 hearing on environmental matters and site suitability.

We have referenced in this decision the Applicant's and Staff's exhibits as they were numbered in the evidentiary hearing. A list of all exhibits, except those attached to the prepared testimony of individual witnesses, appears in the Appendix attached hereto. [The Appendix is omitted from this publication but is available at the NRC's Public Document Room, Washington, D. C.] Since the environmental hearing, the Staff has issued its Supplement No. 1 to the Safety Evaluation Report (Staff Exhibit 7 hereinafter referred to as the "SER Supplement"), and the Applicant has submitted Amendments 31, 32, and 33 to its Preliminary Safety Analysis Report (Applicant's Exhibit 2, hereinafter "PSAR") and Supplement 6 to its Environmental Report (Applicant's Exhibit 3, hereinafter "ER"). For purposes of this Initial Decision, when we refer to Applicant's PSAR and ER, we refer to those documents as amended through January 7, 1976, the date of the commencement of the hearing on radiological, health and safety considerations.

Proposed Findings of Fact and Conclusions of Law were submitted by the Applicant and the Staff but not by the Joint Intervenors. The Staff supported the Application. Any proposed findings of fact or conclusions of law submitted by the parties hereto which are not incorporated directly or inferentially into this Initial Decision, are herewith rejected as being unsupportable in law or fact, or as being unnecessary to the rendering of this Initial Decision.

## II. FINDINGS OF FACT—HEALTH AND SAFETY

### A. DESCRIPTION AND SAFETY EVALUATION OF THE FACILITY

1. The proposed facility is to be located on an irregular U-shaped site of approximately 13,800 acres at the confluence of North Fork Salt Creek and Salt Creek in DeWitt County in central Illinois. The city of Clinton is approximately six miles west of the site. The Board, which has previously made detailed findings of fact describing the Clinton site in its Partial Initial Decision dated September 30, 1975 (LBP-75-59 at RAI-75/9 579), has now considered the additional material and Staff analysis presented in the SER and SER Supplement, including the Staff's analysis of offsite radiation doses resulting from routine releases, and additional evidence presented by the Staff and Applicant at the safety hearings, and finds no reason to alter its previous findings that the proposed site is a suitable location for two nuclear power reactors of the general size and type proposed from the standpoint of radiological health and safety considerations under the Atomic Energy Act and the rules and regulations of the Commission. The Board has further considered the characteristics of the site in light of the particular design proposed and finds that the Clinton site and the facility design conform to the requirements of 10 CFR Part 100 for operation of the reactors at their design power level.

2. Each of the Clinton units will use a single cycle, forced circulation, boiling water reactor (BWR-6) and a vapor suppression type of containment (Mark III), both of which are based on designs introduced by the General Electric Company in 1972 and are adequately described in the Staff's SER and SER Supplement.

3. The PSAR contains a description and safety assessment of the site and of the preliminary design of the facility, a description of the quality assurance program to be applied to the design, fabrication, construction and testing of the facility, and a preliminary plan for the Applicant's plant organization, training of plant personnel, and conduct of operations at the plant.

4. The Staff has performed a technical review and evaluation of the information and data submitted by the Applicant in the Application and the PSAR and their subsequent amendments. As a result of this review and its own independent analysis, the Staff issued the SER and, subsequently, the SER Supplement.

5. The SER and SER Supplement analyzed and evaluated the characteristics of the site and its environs, including nearby population centers, geology, demography, meteorology, hydrology and seismology; the design, fabrication, construction, testing criteria and anticipated performance characteristics of the facilities, structures, systems and components important to safety; the response of the facility to various anticipated operating transients and to a broad spectrum of postulated accidents, including design basis accidents; the Applicant's engineering and construction organization and the plans for the conduct

of operations, including the technical qualifications of operating and technical support personnel; the measures taken for industrial security; the planning for actions to be taken in the event of an accident that might affect the general public; the design of the several systems provided for control of radioactive effluents and management of radioactive wastes from the plant; the Applicant's quality assurance program; and the financial qualifications of the Applicant to design and construct the facility.

6. The Advisory Committee on Reactor Safeguards has completed its review of the application and in its letter of April 8, 1975, to the Commission concluded that if due consideration is given to certain matters which can be resolved during construction, the proposed facilities can be constructed with reasonable assurance that they can be operated without undue risk to the health and safety of the public (SER Supp., App. J). The Staff has considered the comments and recommendations of the ACRS and addressed the Committee statements in the SER Supplement (SER Supp., §18).

7. Each of the Clinton Power Station units will use the recently developed 8 x 8 fuel assembly design. The smaller diameter rods, with lower linear heat generation rate and thicker cladding of the 8 x 8 fuel assembly design, result in increased engineering safety margins, when compared with the 7 x 7 fuel assemblies of previous reactor designs.

8. In response to the Board's inquiry regarding experience with 8 x 8 fuel assemblies, a witness for the NRC Staff testified that to date no commercial power reactors had been loaded and operated exclusively with 8 x 8 fuel assemblies. However, the cores of two plants, Monticello and Vermont Yankee, contain 95% and 89% respectively of this assembly type. The testimony of the witness further established that 8 x 8 fuel assemblies were loaded in no less than 9 BWR operating plants at this time. Applicant also presented a witness who testified that the latest available data show that of the 116 fuel assemblies in their third cycle and 565 in their second cycle, none have shown any signs of leakage after extensive tests have been run. This witness also indicated that, including those 8 x 8 assemblies in their first cycle, there are now 2,044 8 x 8 subassemblies in these nine operating BWRs. Accordingly, the Clinton Station design utilizing 8 x 8 fuel assemblies is acceptable at the construction permit stage.

9. In the SER the Staff noted that the application of 10 CFR Part 50, Appendix K to the CPS was not complete. (SER §4.2.1). In Amendments 30 and 31, dated May 2 and June 13, 1975, the Applicant submitted a LOCA analysis. The Staff reviewed the evaluation of ECCS performance submitted by the Applicant and conclude that the evaluation was performed wholly in conformance with the requirements of 10 CFR 50.46(a), and Appendix K. The CPS ECCS performance assures conformance with: (1) the peak cladding temperature limit of 2200°F, (2) the maximum cladding oxidation limit of 17% of total cladding thickness before oxidation, (3) the maximum hydrogen

generation core wide limit of 1% of the total metal in the cladding surrounding the fuel, (4) the core geometry remaining amenable to cooling, and (5) the long-term cooling requirement of maintaining acceptable core temperatures and decay heat removal. (SER Supp. pg. 6-16). The Board has reviewed the Staff analysis set forth in the SER and SER Supp. and concurs with the Staff's conclusions.

10. The Board has considered the Application, the PSAR and amendments thereto, and the SER and supplement thereto, and finds that the Staff's technical review and safety evaluation is adequate and comprehensive. Accordingly, the Board hereby incorporates by reference the conclusions reached by the Staff in the SER and Supplement thereto, and the Staff's conclusions regarding compliance by the Applicant with 10 CFR 50.46, Appendix K of 10 CFR 50, except insofar as they may be modified by the findings made by the Board in this Initial Decision.

## B. TECHNICAL QUALIFICATIONS, QUALITY ASSURANCE AND MANAGEMENT

11. The PSAR describes the organization of the Applicant, identifies its architect–engineer, principal contractors and its technical consultants, and describes their background and qualifications. The nuclear steam supply system and turbine will be designed and built by the General Electric Company. Sargent and Lundy is the architect-engineer and Baldwin Associates is the general contractor. Baldwin Associates, a joint venture of four partners, each of which has corporate or individual experience and expertise in the construction of nuclear facilities, will act as the constructor of the Clinton Power Station. The partners to the joint venture are Power Systems, Inc., Fruin–Colnon Contracting Company, Kelso–Burnett Electric Co. and McCartin–McCauliffe Mechanical Contractor, Inc. Power Systems, Inc. is the sponsor of the joint venture. Mr. George Gandsey, Executive Vice President–Operations at Power Systems testified to the corporate and individual expertise and nuclear experience of the partners to the joint venture (Gandsey, pp. 4-6 following Tr. 2170). Personnel of Baldwin Associates have worked with both fossil and nuclear plants and are familiar with applicable ASME codes.

12. The Staff reviewed and assessed the organization of the Applicant and the technical qualifications of the Applicant, its architect–engineer, nuclear steam supply system contractor, and principal contractors and technical consultants and concluded that they were technically qualified to design and construct the CPS. (SER §§13 and 21 and SER Supplement §13).

13. The Board concludes that the Applicant, together with its principal contractors and technical advisors, is technically qualified to design and construct the proposed facility.

14. A description of the quality assurance program of the Applicant is contained in Chapter 17 of the PSAR. The NRC Staff reviewed the quality

assurance programs of the Applicant and its principal contractors and concluded that it complies with the requirements of 10 CFR Part 50, Appendix B and Regulatory Guide 1.28 and is acceptable for design, procurement and construction. (SER §17.7 and SER Supplement §17).

15. The Applicant's corporate organization provides that the responsibility for construction rests with the manager of construction who reports to one Vice-President, (SER, p. 13-1; Koch, p. 3 following Tr. 2285). The responsibility for plant engineering, nuclear engineering, nuclear operations and quality control lies with the Manager of Nuclear Projects who reports to a different Vice-President, (SER, p. 13-1; Koch, p. 3 following Tr. 2285). The Supervisor of Quality Assurance, reports to the Manager of Nuclear Projects but has a direct line of communication to both Vice-Presidents. At the request of the Board, the Applicant's Manager of Nuclear Projects, Mr. Koch, and the two Vice-Presidents, Mr. Gerstner and Mr. McHood, were questioned by the Board regarding the organizational structure within the Company, the technical support which is planned to be attached to the Clinton Station, and Applicant's commitment to its quality assurance ("QA") program (Tr. 2287-2317).

16. At the request of the Board, the NRC reactor inspector, James W. Sutton, Jr., appeared and testified. Since the application was docketed, five inspections were made by the NRC Region III, Office of Inspection and Enforcement. Those inspections included, among other matters, a review of the Applicant's quality assurance program. Mr. Sutton found the Applicant to be cooperative and responsive to matters raised by the NRC inspectors and testified that there were no unresolved matters regarding Applicant's QA program. He also stated that he has never had any problem in having access to top management.

17. Based upon the description contained in the PSAR, the NRC Staff analysis set forth in the SER and SER Supplement, and the Board's questioning of witnesses presented by the Applicant and the Staff, the Board concludes that the Applicant's quality assurance program complies with the applicable NRC regulations and Regulatory Guides. In addition, the record shows that the Applicant is cognizant of the importance of a sound quality assurance program, both to itself, the NRC, and the public at large.

## C. RESEARCH AND DEVELOPMENT REQUIRED

18. The research and development programs applicable to the Clinton Power Station, which are to be conducted by the General Electric Company, are described in Section 1.5 of the PSAR. At the Board's request, the Applicant provided a status report of these programs at the Health and Safety Hearing (Koch, pp. 8-10 following Tr. 2285).

19. The Staff has concluded that the test programs outlined in the PSAR will be performed on a timely schedule and that in the event the results of any of

these programs are not successful, appropriate restrictions on operation can be imposed or a proven alternate design can be utilized to protect the health and safety of the public (SER Supplement, p. 1-4).

20. In addition to these test programs, GE is presently conducting a large scale test program to verify the performance characteristics of the Mark III containment. Several phenomena have been identified in the Staff's review of the Mark III containment that could result in dynamic loading of structures located in and above the suppression pool. They are related to (1) pool response to the loss-of-coolant accident (LOCA), and (2) pool response due to relief valve operation, generally associated with plant transient conditions. (SER Supplement p. 6-4).

21. Following a LOCA in the drywell, the drywell atmosphere will be compressed due to blowdown mass and energy addition to the volume. Following vent clearing an air/steam/water mixture will be forced from the drywell through the vent system and injected into the suppression pool, approximately 7-10 feet below the surface. The steam component of the flow mixture will condense in the pool, while the air will be released in the pool as high pressure bubbles. The continued addition and expansion of air causes the pool volume to swell resulting in an acceleration of the surface vertically upward. Due to the effect of buoyancy, air bubbles will rise faster than the pool water mass and will eventually break through the swollen surface and relieve the driving force behind the pool. Due to the dynamics of vent clearing and vent flow and the vertical motion of the pool water mass, structures forming the suppression pool boundary, structures located within the pool, and structures located above the pool could be subject to hydrodynamic loads.

22. Pressure waves are generated within the suppression pool when, on first opening, relief valves discharge high pressure air and steam into the pool water. This phenomenon is referred to as relief valve vent clearing loads which are imparted to pool retaining structures and structures located within the pool. These same structures can also be subject to loads which accompany extended relief valve discharge into the pool if the pool water is at a low temperature. This effect is known as steam quenching vibrations.

23. Subsequent to the issuance of the SER and the ACRS letter on Clinton, the Staff evaluated as part of its post-CP effort those design loads for structures located within and above the suppression pool which were used in the *Grand Gulf* docket. *In the Matter of Mississippi Power & Light Company* and *Middle South Energy, Inc.* (Grand Gulf Nuclear Station, Units 1 and 2), Docket Nos. 50-416 and 50-417. The Staff concluded that in some instances the design loads were inadequately substantiated by test data or were based on what the Staff considered to be a nonconservative interpretation of test data (SER Supplement p. 6-5). Accordingly, in order to assure that the results of the ongoing GE test program in the area of pool dynamics are properly factored into the Clinton design, the Staff has required that this be resolved prior to the

initiation of the construction of the affected components and structures. The Staff, therefore, set forth specific design criteria which it would find acceptable for the construction permit state of review (SER Supplement, pp. 6-5 through 6-9). The criteria include load profiles and associated time histories which the Staff found acceptable based on its review of the GE test program to date. The criteria were developed based on *Grand Gulf* design (which also has a Mark III containment) and represent a feasible approach for the functional requirements of a containment capable of sustaining the pool dynamic loads. The *Grand Gulf* design for suppression pool loads has been reviewed and approved by the NRC Staff (Tr. 2241-2). The Applicant has agreed to follow these criteria as interpreted by the Staff in the design of the Clinton Station (letter dated January 6, 1976 following Tr. 2094). This commitment provides assurance that all affected structures will be designed to load profiles and associated time histories which are substantiated by adequate test data and which provide appropriate design margins for loads that might be experienced during postulated transients and accidents. We find the Applicant's commitment in this respect acceptable.

24. Since the publication of the Clinton SER Supplement, the Staff has issued a safety evaluation report for the GESSAR-238 NI (Report No. NUREG-75/110) in December of 1975. That safety evaluation report gave the latest status report of the containment tests (GESSAR Safety Evaluation Report, §6.2.1.6 cited by Burwell following Tr. 2192). The results of these data have been reported in "Mark III Confirmatory Test Program Progress Report" NEDM-10848 and "Mark III Analytical Investigations of Small Scale Tests Progress Report" NEDM-10976 (Burwell, p. 1 following Tr. 2192). The Staff considered the Mark III testing to be confirmatory in nature but will require that the tests be completed prior to the issuance of the first operating license for a Mark III plant (GESSAR SER, §6.2.1.6; Burwell, pp. 1-5 following Tr. 2192). Adequate design bases exist for these generic items and detailed designs can be developed in these areas based on existing engineering technology.

25. Because of certain design changes in the instrumentation and controls for the Clinton Power Station which are proposed to be made by GE for GESSAR 238NI (Docket No. STN 50-447), the Staff has not completed its review of design changes relating to (1) a revised control rod position detection and indication system; (2) a method of increasing the negative reactivity insertion rate during a reactor trip; (3) changes to the reactor control system to operate the control rods in groups rather than individually; and (4) a revised rod pattern control system. The Applicant has agreed to accept the Staff's generic review and modifications found acceptable in the GESSAR Docket (SER Supplement, §7.1). The present schedule calls for a decision on these alternatives and a preliminary design approval in July of 1976 (Kane, p. 1 following Tr. 2247), which is well in advance of the time that manufacturing commitments would have to be made for the equipment (Tr. 2250).

26. The Board inquired regarding completion of review of the main steamline isolation valve leakage control system (MSIVLCS) as a post-CP item. Mr. Chu-yu Liang, a systems engineer in the Auxiliary and Power Conversion Systems Branch of the Division of Technical Review of the NRC Staff, testified that Amendment 28 of the Clinton PSAR describes the proposed MSIVLCS which "essentially meets" the required design criteria and that the proposed system is feasible. The Board further inquired regarding the Staff's definition of the term "essentially meets". Mr. Spottswood Burwell, the Staff project manager, testified that the Staff had not reviewed design details of interlocks to prevent inadvertent operation of the MSIVLCS, but that there were no technical problems in designing and putting in the interlocks. Mr. Burwell further testified that there was a known solution to the problem that could be employed. The Board agrees with the Staff that the Applicant has provided sufficient MSIVLCS design information and criteria to satisfy the requirements for issuance of a construction permit and that further design details may be completed after the issuance of the Construction Permit. The Staff will review those further design details prior to the issuance of an Operating License. The Board concludes that the proposed design of the reactor coolant system by the Applicant, and the analysis thereof by the NRC Staff are adequate for the protection of the health and safety of the public.

27. Based upon the evidence of the Applicant and the Staff that the scope and schedule of the various research and development programs are adequately designed to accomplish their respective objectives on a timely basis for the facilities, the Board concludes that the Applicant has met the requirements of 10 CFR 50.35(a) in regard to the needed R&D programs.

## D. FINANCIAL QUALIFICATIONS

28. The Applicant is a public utility incorporated in the State of Illinois and engaged in the generation, transmission, distribution and sale of electric energy and the distribution and sale of natural gas in the State of Illinois. Applicant's service territory covers approximately 15,000 square miles in northern, central and southern Illinois and includes approximately 475,000 electrical customers and 354,000 gas customers (Davies Ex. 4 following Tr. 2107).

29. The Applicant originally estimated the cost of the nuclear production plant for both facilities to be 806 millions of dollars and the NRC Staff, utilizing CONCEPT, a cost estimation program developed by Oak Ridge National Laboratory, estimated 863 millions of dollars (SER p. 20-2). When the SER Supplement was issued in December 1975, these estimates had grown to 1.052 and 1.247 millions of dollars (SER Supplement page 20-2).

30. The construction cost data was revised at the safety hearing on January 7, 1976. Applicant presented the testimony of Mr. Newton F. True, Head of the S&L Estimating Division, who testified that based upon a July,

1975 estimate (completed ten months after the estimate relied upon in the SER Supplement) the current estimated cost of the plant is $1,300,090,000. Including the cost of the land at $12,400,000, the total cost of the project would be $1,312,490,000. (True, pp. 4-6 following Tr. 2104).

31. Mr. Davies, a Vice President of the Applicant, testified to the financial ability of the Applicant to raise an estimated $1.3 billion of outside financing over the next 10 years (Davies, p. 3 following Tr. 2107). This estimate relates to the Company's total requirements and is not limited to the Clinton Power Station (*id.*, at p. 4). Mr. Davies assumed, in estimating the amount of outside financing required during this ten year period, that the present 10% investment tax credit would be extended through the end of 1984 and that the Company would be granted reasonable increases in its electric rates from time to time during the same period amounting to an average annual increase of approximately 5% and an increase in gas rates amounting to an average of approximately 2% annually (*id.* at p. 5; Tr. 2110).

32. In estimating the amount of securities to be issued, Mr. Davies assumed a capitalization of 50-52% in the form of first mortgage bonds, 12% to 14% in preferred stock and the remainder represented by common stock equity. Over the ten year period from 1965 to 1975, the Company's total capitalization has increased from $418,000,000 to $1,059,000,000, an increase of 153%. Based on this history, both the Applicant and Staff found it reasonable to assume a 130% increase during the coming ten year period could be achieved (Davies, pp. 5 through 8 following Tr. 2105; Tr. 2161-62). Mr. Davies testified that in his opinion Applicant should be able to market the necessary securities. In a depressed market, Applicant was able to market both common stock and bonds in the summer and fall of 1974 when market conditions were highly adverse (Davies, pp. 9-10 following Tr. 2105). Applicant's bonds are rated AA by both Moody's Investor Service and Standard & Poor's Corporation, which is next to the highest rating issued by both of these rating agencies (Davies *id.* at p. 10; Tr. 2157-9).

33. Information presented by Mr. Davies for the 12 months ended September 30, 1975 indicates that with reasonable assumptions regarding rate increases in the next 10 years, the Applicant is in good financial condition (see Davies Ex. 5 following Tr. 2107). The Staff has reviewed Applicant's updated cost estimates and financial analysis and has found that Applicant is in a superior financial condition (Tr. 2158-9). The Board has examined the evidence in the record and concurs in the Staff's finding.

34. In response to Board inquiry, the NRC Staff updated its review of the Applicant's financial qualifications at the safety hearing. Mr. Petersen, on behalf of the NRC Staff, testified that the Applicant has reasonable assurance of obtaining the funds necessary to complete the design and construction activities under the permits. Although there are no absolute criteria that can be used now to assess the success a company will have financing its construction program over

an uncertain future period, the Staff considered a number of factors, including the rate of return on average common equity, the market-book ratio of common stock, interest coverages, and bond ratings. Applicant's rate of return on average common equity increased from 11.3% in 1974 to 13.6% for the 12 months ended September 30, 1975, substantially above the 1974 industry average of approximately 10.5%. The market-book ratio of common stock increased from .88 to 1.13, indicating an improvement in the investment attractiveness of the company's common stock. The number of times total interest charges were earned increased from 3.14 to 3.73 over the same period. The 1974 industry average was 2.6. Applicant's first mortgage bonds are rated AA (high grade bonds) by both Moody's and Standard and Poor's. The above factors reflect favorably on the Applicant's ability to market its debt and equity securities, an important source of funds for its construction program and were considered together with our assumption of rational regulatory policies and viable capital markets.

35. Continuing improvement in earnings supports the Applicant's ability to provide internally-generated funds for the construction program. Operating revenues increased from $313.6 million for the 12 months ended September 30, 1974, to $396.9 million for the 12 months ended September 30, 1975. Net income increased from $40.6 million to $58.3 million and earnings per average common share increased from $2.07 to $2.88 over the same period. Cash earnings available for common stock (defined as net income after preferred dividends, plus depreciation, deferred income taxes, and minus the allowance for funds used during construction) increased from $77.2 million to $106.2 million (or from $4.79 to $5.99 per average share of common stock) over the same period, which indicates adequate coverage of the Applicant's common dividend of $2.20. This comparison between earnings available for common stock and the common dividend indicates that a substantial portion of internally-generated cash is available for construction expenditures. It is also a positive factor in the marketability of the Applicant's securities. (Tr. 2196 *et seq.*)

36. The Board concludes from the information and analysis in Chapter 20 of the SER and SER Supplement and from the evidence provided at the safety hearings by Messrs. Davies and Petersen that there is reasonable assurance that the Applicant is financially qualified to design and construct the Clinton Power Station.

## E. COMMON DEFENSE AND SECURITY

37. The activities to be conducted under the construction permits will be within the jurisdiction of the United States. All of Applicant's directors and principal officers are citizens of the United States, and the Applicant is not owned, dominated or controlled by an alien, a foreign corporation, or a foreign government. The activities to be conducted do not involve any restricted data,

but the Applicant has agreed to safeguard any such data which might become involved in accordance with the Commission's Regulations. The Applicant will rely on obtaining fuel from sources of supply available for civilian purposes, so that no diversion of special nuclear material from military purposes is involved. Therefore, the Board finds that the issuance of construction permits for the Clinton Power Station will not be inimical to the common defense and security.

## F. RADIOACTIVE WASTE MANAGEMENT SYSTEMS

38. During routine operation of the facilities, small quantities of radioactive materials will be released to the environment. Treatment will be provided for those effluents by the radioactive waste management system, which will be designed to provide for the control, handling and treatment of radioactive liquid, gaseous and solid wastes. The liquid waste system will process liquid streams such as equipment drains, coolant leakage, condensate demineralizer regenerant liquids, decontamination and laboratory waste liquids, and laundry and shower waste water, utilizing evaporation, demineralization, and filtration for removal of radioactive material, chemical impurities and particulates. The treated liquid waste will be recycled for reuse if the plant water balance requires makeup and if the water quality is adequate. Gaseous wastes from the main condenser offgas system, and from vents and leakage from equipment handling radioactive materials will be treated for radioactive material removal by filtration, absorption, and holdup for radioactive decay. The treated gas streams will be released to the environment through roof vents. Solid wastes will consist of waste materials such as contaminated clothing, evaporator bottoms, demineralizer resins and discarded radioactive components and tools. Treatment will consist of solidification, packaging, onsite storage for decay, and shipping to a licensed burial site.

39. Section 3.5 of the FES describes the various waste treatment systems to be utilized at the Clinton facility. The NRC Staff has reviewed Amendments 30 and 32 to the PSAR. These Amendments indicate that the design of the liquid, gaseous and solid radwaste systems will conform to the design guidance given in Branch Technical Position ETSB No. 11-1 (Revision 1). See Appendix G (revised) of the SER Supplement. On the basis of these amendments, the Staff found the systems to be acceptable. (SER Supplement §§11.2, 11.3, 11.4).

40. The Board has independently considered the design and performance of the radioactive waste treatment systems proposed for CPS and the NRC Staff's review thereof as set forth in the ER and PSAR, as amended, and in the FES, SER and SER Supplement and has concluded that the systems conform to the Commission's requirements.

## G. COMPLIANCE WITH APPENDIX I TO 10 CFR PART 50

41. On September 4, 1975, the Commission amended Appendix I to 10 CFR Part 50 by adding an annex to Section II.D[2] to provide applicants which have filed applications for construction permits for light-water-cooled-nuclear power reactors which were docketed on or after January 2, 1971, and prior to June 4, 1976, the option of dispensing with the cost–benefit analysis required by Paragraph II.D of Appendix I. This option permits an applicant to design its radioactive waste management systems to satisfy the Guides on Design Objectives for Light-Water-Cooled Nuclear Power Reactors proposed in the Concluding Statement of Position of the Regulatory Staff in Docket RM 50-2, dated February 20, 1974. As indicated in the Statement of Consideration included with that amendment, the Commission concluded that it was unlikely that further reductions to radioactive material releases would be warranted on a cost–benefit basis for light-water-cooled nuclear power reactors having radwaste systems and equipment determined to be acceptable under the proposed Staff design objectives set forth in RM 50-2. The Commission's conclusion is based upon its review of applications for construction permits for light-water-cooled nuclear power reactors filed and reviewed since 1971. The Commission further concluded that boiling water reactors, such as CPS, that have radwaste systems and equipment which meet the proposed Staff design objectives in RM 50-2 will meet the requirements of Section II.D of Appendix I.

42. In letters to the Commission dated September 23 and October 3, 1975, Illinois Power Company chose to comply with the annex to II.D of Appendix I set forth in the September 4, 1975, amendment to Appendix I rather than submit a cost–benefit analysis as required by Paragraph II.D.

43. At the time of the environmental hearings, June–July 1975, the NRC Staff had not completed its development of guides for implementation of Appendix I. Therefore, at the environmental hearings the Staff presented a worst-possible case (Tr. 1972 and following) which concluded (a) that the benefit–cost balance would not be significantly altered by applying Section II.D to Appendix I to CPS and (b) that it was likely that the Staff's final assessment would have an even smaller effect upon the benefit–cost balance (PID–Environmental, NRCI-75/9 at 612 through 615).

44. Since July 1975 the Staff has developed new calculational models (source terms, pathways, cost of equipment, installation and servicing, etc.) based upon more recent operating data. Based upon information provided by the Applicant in letters dated September 23 and October 3, 1975, the equipment described in the PSAR, more recent experience with BWRs, and changes in calculational models, the Staff generated new liquid and gaseous source terms and reanalyzed CPS to determine compliance with Appendix I. These new values

[2] 40 *Fed. Reg.* 40816.

differ from those given in FES Tables 3.4 and 3.5 and from those given at the environmental hearings (Cardile Table 1, following Tr. 1970), (SER Supp. 2-2).

45. Included in the Staff analysis are dose evaluations of three effluent categories: (1) pathways associated with liquid effluent releases to the Salt Creek, (2) noble gases released to the atmosphere, and (3) pathways associated with radioiodines, particulates, carbon-14 and tritium released to the atmosphere. The details of the Staff's final assessment to determine compliance with Appendix I are set forth in Appendix L to the SER Supplement.

46. Since the Guides on Design Objectives apply to all light-water-cooled reactors at a site, it is necessary to compare the total dose from Units 1 and 2 with the Design Objectives contained in the Concluding Statement of Position of the Regulatory Staff. Tables L-3 and L-4 of the SER Supplement provide a comparison of the calculated doses, with the design objectives of Sections IIA, B and C of Appendix I and the proposed NRC Staff design objectives set forth in RM-50-2 (SER Supplement pages 2-3).

47. The Board finds that NRC Staff evaluation demonstrates that the doses associated with the normal operation of the Clinton Power Station, Units 1 and 2, meet the design objectives of Sections II.A, II.B and II.C of Appendix I of 10 CFR Part 50, and that the expected quantity of radioactive materials released in liquid and gaseous effluents and the aggregate doses meet the design objectives set forth in RM-50-2.

48. The Board further finds that NRC Staff's evaluation shows that the Applicant's proposed design of Units 1 and 2 satisfies the criteria specified in the option provided by the Commission's September 4, 1975, amendment to Appendix I and, therefore, meets the requirements of the annex to Section II.D of Appendix I, 10 CFR Part 50. The Board further finds that compliance by the Applicant with Appendix I will have no effect upon the benefit–cost balance. The Board's finding in this paragraph and the discussion in paragraphs 42 through 47 herein, amend, modify, and replace the Board's previous findings as set forth in the PID–Environmental, NRCI-75/9 pages 613 through 615, excepting the last paragraph on page 615 which is concerned with accidents.

49. Based upon the systems and equipment described in the FES, SER and PSAR and upon NRC Staff calculations set forth in the SER Supplement, the Board finds that the Applicant's radioactive waste management system is capable of reducing effluents to levels as low as is reasonably achievable and is in compliance with 10 CFR Part 20 and 10 CFR §50.34(a) as defined in Appendix I to 10 CFR Part 50, as further modified in 40 *F.R.* 40816, September 4, 1975. The Board also finds that neither the cost of compliance with Appendix I nor the radiation doses that may result from plant operation would significantly alter the results of the Board's previous review of the cost–benefit analysis.

50. Based on our review of the documentation and testimony related to the design of the facilities in this proceeding as discussed above, including the

information supplied in response to the Board's requests for Staff testimony at the hearing, the Board finds that the design of the CPS facility can be completed and that it can be constructed and operated in compliance with the general design criteria set forth in 10 CFR Part 50, Appendix A and all other relevant regulations without undue risk to the health and safety of the public.

## H. USE OF TYPE 304 STAINLESS STEEL

51. At the opening of the safety hearings, the State of Illinois Department of Public Health, by Gary N. Wright, made a limited appearance[3] during which Mr. Wright questioned the use of Type 304 stainless steel in the primary coolant recirculation piping of CPS and the implications for plant safety and reliability. In Mr. Wright's view, Reg. Guide 1.44 effectively precludes the use of Type 304 stainless steel in the primary coolant system of BWRs.

52. In response to the allegations of the State of Illinois, Mr. Spottswood Burwell, the NRC Licensing Project Manager, testified that in September 1974, when the first of a series of cracks in the austenitic stainless steel piping of modern boiling water reactors was found at Dresden Nuclear Power Station, Unit 2, the Atomic Energy Commission instigated an extensive investigation to evaluate the cause and extent and safety implications of the problem.[4]

53. Although cracks in piping systems have occurred many times in the past, chiefly in austenitic stainless steel piping in BWRs, it was believed that the problem had been corrected or substantially reduced by better control of welding, contaminants and design in BWRs built after Dresden Unit 1.

54. In order to obtain further information the Nuclear Regulatory Commission in January 1975, formed a pipe cracking study group that included outside consultants. General Electric also established a task group to investigate the broader aspects of the problem and to make recommendations to operating BWR facilities. The pipe cracking study group examined the various features of the affected piping to assess the commonality or a discernible pattern in those plants that experienced pipe cracking, as well as any indication of uniqueness of plants that have not been subject to pipe cracking. In that study they had the benefit of a review of metallurgical examinations performed in laboratories on several specimens that had developed cracks.

55. The pipe cracking study group concluded:

Significance of stress corrosion cracks.

A. Safety considerations. One of the major potential concerns about cracking is that they may trigger an extensive failure leading to a loss of coolant accident. Although rapidly propagating, brittle cracking has occurred in pipes, none of these failures have been in austenitic stainless piping. It

[3] Tr. 2066.
[4] Tr. 2336.

should be emphasized that no previous cracking in nuclear systems has resulted in serious consequences. The relatively small leaks were identified either by the leak detection instrumentation or by visual inspection. Although total severance due to ductile tearing has been demonstrated in the laboratory testing, such failures of austenitic pipes in nuclear plants without prior leakage is considered to be extremely unlikely. Safeguards such as emergency core systems in containment are provided in the design of the plant to prevent such an occurrence.

Concern has been expressed about the safety aspects of the core spray piping cracks, relating to the possibility that undetected cracks in this system could cause failure of the ECCS system to function, should it be required to operate to mitigate the consequences of a LOCA. There is little basis for this concern. The core spray piping is normally subject to the operating pressure of the primary system, and if called upon to function, the system will be at a lower pressure as a result of the LOCA blowdown. Even if leaking cracks were to be present, the core spray system should operate as expected, because the lower pressure alone could not initiate further failure, and leakage through cracks would be less at the lower operating pressure of the core spray system compared to the normal reactor cooling system operating pressure. NUREG 75/067, page 7 (Tr. pp. 2338 and 2339).

56. Mr. Burwell testified that Regulatory Guide 1.44 is not intended to prohibit the use of Type 304 stainless steel, but instead is designed to prevent the use of stainless steel that has become sensitized to stress corrosion during welding. In reviewing the performance of the Clinton Power Station and the application of Regulatory Guide 1.44, the General Electric Company and the Applicant have agreed to perform a test program which they believe will demonstrate that present welding procedures would not result in sensitization of the Type 304 stainless steel. The results of the GE test program, which is described in the PSAR, page 5.2-16 c, are not yet available, therefore the Staff has not at this time determined whether the alternative offered to the proposals set forth in Regulatory Guide 1.44 will be acceptable. The resolution of this matter will come from the results of the pipe cracking study group, the ACRS recommendations, the GE test program and the continued efforts of the Staff and its consultants.

57. The Board finds that the use of Type 304 stainless steel in primary coolant piping of BWRs does not create a significant hazard consideration and that the Commission's generic approach to resolving, or mitigating, the problem is appropriate.

## III. CONCLUSIONS OF LAW

1. The Board has reviewed the entire record of this proceeding. The Application and the proceedings thereon comply with the requirements of the Atomic Energy Act of 1954, as amended, the National Environmental Policy Act of 1969 ("NEPA"), and the rules and regulations of the Commission. The Board affirms its prior conclusions that the Staff's NEPA review has been adequate and that NEPA, Section 401 of the Federal Water Pollution Control Act, and Appendix D to 10 CFR Part 50 have been complied with.

2. The Board in summary concludes that the application and the record of the proceeding contain sufficient information and that the review of the Application by the Staff has been adequate to support the specific conclusions that follow.

We conclude that:

A. In accordance with the provisions of 10 CFR §50.35(a):

(1) The Applicant has described the proposed design of the facility, including, but not limited to the principal architectural and engineering criteria for the design, and has identified the major features or components incorporated therein for the protection of the health and safety of the public;

(2) Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;

(3) Safety features or components, if any, which require research and development have been described by the Applicant; and the Applicant has identified, and there will be conducted, a research and development program reasonably designed to resolve any safety question associated with such features and components; and

(4) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the Application for completion of construction of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

B. The Applicant is technically qualified to design and construct the proposed facility.

C. The Applicant is financially qualified to design and construct the proposed facility.

D. The issuance of permits for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.

E. Subject to the conditions set forth in the Partial Initial Decision, as modified herein:

(1) The Environmental review performed by the Staff (pursuant to the National Environmental Policy Act of 1969) and set forth in the final Environmental Statement has been adequate.

(2) Sections 102(2)(A), (C) and (D) of NEPA and Appendix D (10 CFR Part 50) have been complied with.

(3) The Board has considered the final balance among conflicting Environmental factors, and has weighed the various benefits against costs, taking account of the need for power, and the alternatives to the plant and certain of its design features. As a result, the Board concludes that these considerations favor the issuance of construction permits for the facility.

## IV. ORDER

On the basis of the Board's findings and conclusions in its Partial Initial Decision and this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations, IT IS ORDERED that the Office of Nuclear Reactor Regulation is authorized to issue to Illinois Power Company permits to construct Clinton Power Station, Units 1 and 2 consistent with the terms of this Initial Decision, substantially in the form of Attachments A and B hereto. [Attachments A and B are omitted from this publication but are available at the NRC's Public Document Room, Washington, D. C.]

The Construction Permits shall contain the conditions imposed by the State of Illinois in the Certification issued by it pursuant to Section 401 of the Federal Water Pollution Control Act.

IT IS FURTHER ORDERED, in accordance with 10 CFR §§2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission forty-five (45) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter [twenty (20) in the case of the Staff] any party filing such exceptions shall file a brief in support thereof. Within fifteen (15) days of the filing of the brief of the

Appellant [twenty (20) days in the case of the Staff], any other party may file a brief in support of, or in opposition to, the exceptions.

THE ATOMIC SAFETY AND LICENSING BOARD

Lester Kornblith, Jr., Member

J. Venn Leeds, Jr., Member

Robert M. Lazo, Chairman

Issued at Bethesda, Maryland
this 20th day of February, 1976.

[The Appendix (List of Exhibits) and Attachments A and B (Construction Permits) are omitted from this publication but are available at the NRC's Public Document Room, Washington, D. C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-7

ATOMIC SAFETY AND LICENSING BOARD

Frederic J. Coufal, Chairman
Dr. Richard F. Cole, Member
Dr. A. Dixon Callihan, Member

In the Matter of

Docket No. 50-471

BOSTON EDISON COMPANY, et al.

February 20, 1976

(Pilgrim Nuclear Generating Station, Unit No. 2)

Licensing Board finds intervenor Daniel F. Ford in default for failure to carry out the responsibilities imposed upon him by the fact of his participation in the proceeding and dismisses his contentions. Licensing Board will inquire into the overall integrity of the proposed steam generator tubes, the subject of one of Mr. Ford's dismissed contentions.

RULES OF PRACTICE: RIGHT TO PARTICIPATE

A party may be found in default, and his contentions dismissed, by reason of his failure to carry out the responsibilities imposed upon him by the fact of his participation in a proceeding.

## ORDER

Daniel F. Ford petitioned to intervene in this proceeding asserting a number of contentions; the petition was granted and several of the contentions were admitted in an Order dated February 18, 1975. After participation in some prehearing activities, Mr. Ford, in a letter dated October 15, 1975, advised the Board that he did not intend to participate in the evidentiary hearing but stated a reservation of "the right to seek administrative and judicial review." On motion of the Staff, the Board ordered that Mr. Ford show cause why he should not be held in default and his contentions dismissed. In response to this motion, Mr. Ford advised the Board in a letter dated November 14, 1975, to the effect

that he was not in default but was exercising an election open to him to participate in those parts of the proceeding which he chose.

The failure of a party to carry out the responsibilities imposed upon him by the fact of his participation in a proceeding has been commented upon by the Appeal Board: See Northern Indiana Public Service Company (Bailly Generating Station, Nuclear-1) ALAB-224, 8 AEC 244, 250; Consumers Power Company (Midland Plant, Units 1 and 2) ALAB-123, 6 AEC 331, 332; Northern States Power Company (Prairie Island Nuclear Generating Plant, Units 1 and 2) ALAB-288, NRCI 75/9 390. For the reasons stated in those cases, there is authority for the dismissal of stated but abandoned contentions. Caution dictates however that the contentions be reviewed to determine if the questions raised may be ignored.

Some of the Ford contentions are similar to those of other intervenors. A, B and C are essentially the same as Commonwealth 10; F is identical to Commonwealth 12; much of contention M is contained in Commonwealth 6 and Cleeton H; and N is similar to Commonwealth 3 and Cleeton I. The contentions that are not redundant to those of other intervenors are I*, J, K and L.

Contention I is a general allegation that Applicants have not "adequately demonstrated conformance" with general Criterion 35 and Appendix K to 10 CFR Part 50. Criterion 35 (of Appendix A to Part 50) is a 20-line description of what an ECCS system must be and Appendix K describes acceptable mathematical models for ECCS evaluation and the documentation necessary therefor. Thus the contention is an unspecific attack on the Applicants' proposed ECCS system.

Contention J is a similarly general complaint that the proposed pressure retaining components will not meet applicable ASME and NRC standards.

Contention K is to the effect that the proposed steam generator tubes have not been shown able to maintain integrity during a loss-of-coolant accident.

Contention L alleges that Applicants have violated regulations because they have failed to provide a research and development program designed to resolve "certain" unidentified safety questions.

Dismissal of Ford contentions A, B, C, F, M and N would not foreclose inquiry into the matters therein raised because other intervenors forcefully urge them and considerable evidence has been taken regarding those which have been heard. I, J and L are so lacking in specificity that they provide little help in defining areas in which the Board should be particularly interested. Contention K remains and, because steam generator tubes have been troublesome to some nuclear steam supply systems in the past, it is appropriate that inquiry regarding the proposed steam generator tubes be made by the Board. Accordingly,

*The Commonwealth had a similar contention which they have elected to withdraw.

IT IS ORDERED:

1. That Intervenor Daniel F. Ford is in default;

2. That the contentions of Daniel F. Ford admitted to this proceeding in an Order dated February 18, 1975, are dismissed; and

3. Evidence regarding the overall integrity of the proposed steam generator tubes will be taken.

THE ATOMIC SAFETY AND LICENSING BOARD

Dr. Richard F. Cole, Member

Dr. A. Dixon Callihan, Member

Frederic J. Coufal, Chairman

Dated at Bethesda, Maryland,
this 20th day of February, 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-4

COMMISSIONERS:
Marcus A. Rowden
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of

EDLOW INTERNATIONAL COMPANY

(Agent for the Government of India on Application to Export Special Nuclear Material)

License No. XSNM-805
Docket No. 70-2071

License No. XSNM-845
Docket No. 70-2131

March 17, 1976

The Commission grants the Department of State's request to file supplemental affidavits revising and making more specific its claims regarding the impact of delay in granting the export license on the operation of the Tarapur (India) Atomic Power Station, specifies particular information which it wishes the affidavits as a minimum to include, and invites the parties to submit their views concerning procedures to be followed if a hearing were to be authorized.

## ORDER

1. During the course of the oral arguments held in these proceedings on Wednesday, March 17, 1976, the Department of State sought permission to introduce further affidavits revising and making more specific its claims regarding the impact of delay in granting license XSNM-805 on the operation of the Tarapur Atomic Power Station. Permission to file supplementary affidavits is hereby granted, those affidavits to be filed at the earliest possible time, with any response by other participants to be filed within five calendar days (10 CFR 2.710 notwithstanding). The Commission wishes the affidavits to include, together with such other information as the Department of State may wish to provide, the following information:

When does the material covered by XSNM-805 have to be loaded as fabricated fuel into the Tarapur reactors?

When does it have to arrive at the conversion/fabrication facility to meet this schedule?

Explain the need for a six months period to fabricate about 3,000 kg of reactor fuel. Is there some allowance made on that period for unforeseen contingencies?

Given the time periods referred to in resonse to the preceding questions, when does the material covered by XSNM-805 have to leave the U. S. if it leaves by ship? By air?

2. Each of the participants is invited to submit, in a filing to be received at the Commission no later than 5:00 p.m., March 26, 1976, any views or supplemental views it may have regarding hearing procedures the Commission might follow should it determine either

(a) that petitioners have a right to a hearing, or

(b) that petitioners have no such right, but that a hearing would be appropriate as a matter of discretion.

In connection with the alternative (b), if the Commission were to find no right to a hearing but nonetheless were to conclude that it would be sound to afford some opportunity for public participation in the licensing process, are there any non-adjudicatory procedures which would be useful to adopt for that purpose? Would, for example, an opportunity for public submission of data and arguments, through a comment process, be sound in terms of public policy considerations or improve the substantive basis for export licensing determinations? Are there other procedures, beyond written response to a public file but short of trial-type processes, which should be considered?

FOR THE COMMISSION

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D. C. this
17th day of March 1976

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-5

COMMISSIONERS:
Marcus A. Rowden, Acting Chairman
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of

EDLOW INTERNATIONAL COMPANY

as Agent for the Government of India, to Export Special Nuclear Material

License No. XSNM-805
Docket No. 70-2071

License No. XSNM-845
Docket No. 70-2131

March 25, 1976

Upon motion by Department of State to separate two proceedings involving applications for export of special nuclear material to India, and to hear one of them expeditiously because of the urgent need for the material in India and the consequent effect of delay on United States nuclear foreign policy, the Commission concludes that additional fuel supplies will not be needed in India until January 1, 1977 at the earliest and would not have to leave the U. S. until October 1976 (by ship) or December 1976 (by air), and accordingly that considerations flowing from a delay in issuing the first of the export licenses do not compel separate treatment of the two export applications.

Motion denied.

## ORDER

On March 2, 1976, the United States Nuclear Regulatory Commission received petitions for leave to intervene and for a public hearing in two separate license application proceedings for the export of special nuclear material to India. In license No. XSNM-805, the Edlow International Company had filed an application on July 29, 1975 to export 3055.20 kilograms of low enriched special nuclear material; application No. XSNM-845, for 18371.4 kilograms of low enriched special nuclear material was filed on October 21, 1975. The

petitions to intervene were filed by the Natural Resources Defense Council, Inc. and the Sierra Club on their own behalf and as representative of their membership, and by the Union of Concerned Scientists, a corporation.

On March 5, 1976, the Nuclear Regulatory Commission requested that the petitioners, applicant, NRC staff and the Department of State submit written statements concerning the preliminary issues arising from these petitions, which are the first petitions requesting intervention and hearing in a nuclear export license proceeding ever received by the NRC, or its predecessor agency, the Atomic Energy Commission. At the same time that the Commission requested written submissions, it also scheduled an oral hearing on preliminary issues to be convened on March 17, 1976.

On March 12, five days prior to the oral hearing, the Department of State petitioned the Commission to treat separately and expeditiously license XSNM-805, basing its petition in part on the grounds that the material covered by that license was urgently needed in India. In an accompanying affidavit, Dixon B. Hoyle of the Department of State, stated—on the basis of information then available to the Department—that "unless slightly enriched uranium is received at the [Indian] fabrication plant by March 31, 1976, operations at this plant will be disrupted" and that "even a marginal delay beyond the March 31 date will entail considerable hardship and irreparable interruption in the refueling cycle which could cause serious damage to the Tarapur project as a whole." On March 16, 1976, Mr. Hoyle filed a second affidavit informing the Commission that, based on further inquiries by the Department of State, the impact of further delay in the issuance of license XSNM-805 may have been overstated. During the oral hearing, Mr. Irwin Goldbloom of the Department of Justice, appearing on behalf of the Department of State, reiterated the Executive Branch's view that time was of the essence with respect to XSNM-805, and that efforts were being made to ascertain precisely what the facts were. (Transcript, p. 40). Earlier in the hearing, the participants were advised that:

> (i)n view of the assertion that failure to proceed with dispatch on that application [XSNM-805] could have serious and irreparable consequences for India, for bilateral U. S./Indian relations, and for U. S. nuclear foreign policy, the Commission intends to resolve the question of severance on an expedited basis. (Statement of Acting Chairman Rowden, Transcript, p. 7).

The results of the further inquiries into this matter by the Department of State were set forth in an affidavit filed by Mr. Hoyle on March 18, 1976. Responses to that affidavit were filed on March 22 by the Petitioners and the NRC staff.

The information provided by Mr. Hoyle on March 18 and the Commission's own analysis suggest that the following factors are relevant to assessing the urgency of the need for the 3055 kg of material covered by XSNM-805:

- India currently has on hand at the fabrication facility 41,000 kgs of uranium, including 5,000 kgs of scrap and 30 finished fuel elements.

- The 41,000 kg of uranium on hand at the fabrication facility will allow the preparation of approximately 260 fuel elements.
- Each reloading of one of the Tarapur reactors nominally requires 70 fuel elements. According to Mr. Hoyle's March 18 affidavit, the actual number of fuel elements requiring replacement at a single previous reloading has been as high as 118.
- Reloading of each reactor is nominally expected to occur at intervals of about 10–12 months.
- On the basis of the parameters the State Department has supplied and existing Indian uranium supplies, the following schedule of reactor fuel availability may be derived:

| | Fuel Elements Remaining After Refueling | |
|---|---|---|
| Refueling Date | Assumed Nominal Use Per Refueling (70) | Assumed Maximum Use Per Refueling (118) |
| Current Supply | 260 | 260 |
| July/August 1976 | 190 | 142 |
| January 1977 | 120 | 24 |
| June/July 1977 | 50 | (94) (deficit) |

Thus, it is reasonable to take July 1, 1977 as the earliest date on which the uranium now on hand in India might not be sufficient to refuel the Tarapur reactors. In that event, allowing six months for fabrication of elements from uranium hexafluoride,[1] additional uranium supplies will be required at the conversion/fabrication facility by January 1, 1977. Counting back three months for sea shipment, the uranium would not have to leave the United States earlier than October 1, 1976. (Air shipment would move this date to Mid-December 1976). Since the October 1 date is derived from the highest reported fuel usage and the design basis refueling interval—which would be extended by lowered capacity figures on unplanned downtimes—that date is conservative, and adequately allows for foreseeable contingencies so far as the fuel supply for the Tarapur reactor is concerned. It might be added that the amount of fuel represented by this license, less than ten percent of the material on hand and enough only for about 20 elements, also casts doubt on the claim that it involves special urgency.[2]

[1] While we accept this figure for purposes of our analysis, normally this period would be that required for a full core reload.

[2] Petitioners' affidavit of March 22 presents a somewhat different analysis of the State Department affidavits than our own, but avers no new facts of substance. Use of affidavits to convey analysis rather than asserted fact is a frequent enough practice, but we would prefer receiving argument in the more usual briefing format.

We agree with the Petitioners that the claimed urgency of action has not been established, but reach that conclusion for the reasons stated in the analysis above.

Two other factors cited in Mr. Hoyle's March 18 affidavit merit comment: the postulated power cut-back at the Tarapur reactor in anticipation of a fuel shortage, and the necessity to commence scrap recovery operations after uranium hexafluoride supplies at the Indian fabrication facility are exhausted at the end of this month.

With regard to a power cut-back, it would appear that the operator of the Tarapur Station would not require recourse to such a measure earlier than four months before any anticipated fuel shortage (*i.e.*, a September power cut-back in response to an anticipated January shortage). Thus, if a fuel shortage were anticipated in July 1977, power would not need to be cut back prior to March 1977. While any such event would be most serious, uranium needed for the July 1977 refueling would have to leave the United States in October, or at the latest in December 1976. Hence, the critical factor in considering the urgency of uranium shipment from this country would appear to be the need for timely arrival of the uranium at the conversion/fabrication facility rather than a precautionary power cut-back by the reactor operator.

Concerning the use of scrap at the fabrication plant, it would appear—on the basis of information now available—that the Indian plant has on hand a large amount of fresh unfabricated uranium (enough to produce some 200 additional elements), 5,000 kg of scrap (enough to produce some 30 additional elements), as well as the 30 existing elements. Hence, the use of scrap will apparently be unnecessary for some time in the future. (Given the 140 elements per year capacity suggested by Mr. Hoyle's March 18 affidavit, the non-scrap uranium would suffice for over a year of "normal" operation). Moreover, the recycling of scrap is itself a normal operation. For example, U. S. fabricators count on recycling annual scrap production equivalent to about 10% of throughput. Hence, refabrication of scrap is normally and regularly undertaken at fabrication facilities and would presumably be carried out at some time in the operation of the Indian facility, irrespective of the continued availability of "fresh" uranium hexafluoride.

We are, of course, cognizant of the consideration advanced at the oral hearing on this petition that the United States' obligations under its Agreement for Cooperation with India surpass the provision of a barely adequate supply. Absent a more precise explanation than we have yet received of the Department of State's interpretation of this aspect of the Agreement, we are unable to find in the assertion that stocks of fresh uranium hexafluoride may soon be exhausted, any adequate basis for the urgency claim. As we understand it, the Agreement addresses the supply of fuel for the reactor, not of feedstock for the fabrication plant. And, for the reasons stated, that supply at the present time and on our present understanding belies any claim of imminent shortage or, correspondingly, urgency.

Based upon our analysis of information contained in affidavits submitted in this proceeding we are unable to conclude, at this time, that considerations

flowing from a delay in issuing license No. XSNM-805 compel separate treatment of these two applications. Indeed, given the much larger size of the second of the proposed shipments, we believe that the time pressures for decision on the two applications are essentially the same.

We wish to make clear, however, that we intend to decide the other issues herein and act on both license applications as promptly as we can reasonably do so. With this in view, final written submissions in these matters are now scheduled for March 26, 1976. After receiving those submissions, the Commission intends to proceed immediately to a decision on the questions of Petitioners' right to intervene and to demand a hearing under §189 of the Atomic Energy Act, and to a decision on the matters dealt with in our Order dated March 5, 1975, including the issue of timeliness of the petitions to intervene. Beyond this, we would expect to act on the license application in a timely fashion.

Given the nature of this matter, the Commission is, of course, prepared to consider additional information concerning the effects of delay on either or both of these license applications. However, at this time, the Motion of the Department of State for separate and expedited consideration of the petition to intervene in license application No. XSNM-805 is DENIED.

FOR THE COMMISSION

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D. C.
this 25th day of March 1976

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-316

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

PUBLIC SERVICE COMPANY OF INDIANA, INC.

(Marble Hill Nuclear Generating Station, Units 1 and 2)

Docket Nos. STN 50-546
STN 50-547

Mr. Wallace L. Duncan, Washington, D. C., for petitioner Kentucky-Indiana Municipal Power Association, *appellant.*

Messrs. Harry H. Voigt and Omer F. Brown, II, Washington, D. C., for the applicant, Public Service Company of Indiana, Inc., *appellee.*

Mr. Lawrence Brenner for the Nuclear Regulatory Commission Staff, *appellee.*

The Appeal Board affirms a ruling of a Licensing Board convened to consider environmental, safety and health issues that it lacks jurisdiction to grant a petition to intervene which seeks to raise only antitrust issues.

ATOMIC ENERGY ACT: ANTITRUST PROVISION

The Atomic Energy Act requires public hearings on the antitrust implications of a license application only where the Attorney General requests it, or where a party whose interest would be affected by the proposed facility properly raises relevant antitrust issues. Such hearings are not necessarily required for every license application. *Kansas Gas and Electric Company* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, NRCI-75/6 at 565-66 (1975).

LICENSING BOARD: DELEGATED AUTHORITY OR JURISDICTION

The Atomic Energy Act authorizes the Commission, in fulfilling its licensing duties, to direct the atomic safety and licensing boards to preside over adjudicatory proceedings. Hence, licensing boards are delegates of the Commission and can hear only those matters which the Commission has designated them to decide.

RULES OF PRACTICE: ANTITRUST HEARINGS

The Commission's Rules of Practice provide that, unless the Commission determines otherwise, separate boards be convened to consider antitrust matters apart from radiological health and safety considerations of an application so that both matters may be considered simultaneously.

## DECISION

## March 3, 1976

The Kentucky-Indiana Municipal Power Association petitioned to intervene in a licensing board proceeding convened to consider radiological health, safety and environmental aspects of the Public Service Company of Indiana's application to construct the Marble Hill Nuclear Generating Station. The Board denied leave to intervene for want of jurisdiction over the subject matter because the petition sought to raise only antitrust matters. The Municipal Power Association appeals. We affirm.

### I

1. **General.** Section 105c. of the Atomic Energy Act calls upon the Commission to determine whether licensing a nuclear power generating facility "would create or maintain a situation inconsistent with the antitrust laws." 42 U.S.C. §2135(c)(5). Should the Commission find this to be the case, it may place conditions on the license designed to ameliorate the anticompetitive situation, or even deny the application altogether. *Kansas Gas and Electric Company* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, NRCI-75/6, 559 (1975). The Act does not, however, direct the holding of a public hearing on the antitrust ramifications of each license application. One is required only where the Attorney General requests it, or where a party whose interests would be affected by the proposed facility properly raises relevant antitrust issues in the manner provided by the Commission's regulations. *Id.* at 565-66.

2. **Notice of opportunity for antitrust hearing.** The Commission sought the Attorney General's advice on the antitrust aspects of the Marble Hill application. It also placed a notice in the January 15, 1975 *Federal Register* inviting "[a]ny person who wishes to have his views on [this issue] presented to the Attorney General" to submit them for consideration on or before March 17, 1975. 40 *Fed. Reg.* 2743-44. Petitioner Municipal Power Association, a group of seven Kentucky and Indiana "Municipal corporations formed . . . for the purpose of instituting a bulk power supply program for [its] members," took advantage of that opportunity. It made known to the Justice Department its belief that the applicant had in the past engaged in anticompetitive conduct with respect to the sale of electric power in bulk.[1]

In due course the Attorney General wrote the Commission that he thought a public hearing on the antitrust aspects of the Marble Hill application would be unnecessary, provided two conditions were satisfied: first, that the applicant agreed to conform its future conduct to a "Statement of Bulk Power Supply Policies" appended to the Attorney General's advice letter; and, second, that the Commission incorporated that "Statement" as part of the applicant's license to build and operate the Marble Hill facility. The applicant agreed to the Attorney General's proposal. On April 28, 1975 the Commission had the Attorney General's advice letter, the appended "Statement of Bulk Power Supply Policies," and the fact of the applicant's acquiescence published in the *Federal Register,* preceded by a notice of "Time for Filing Petitions to Intervene on Antitrust Matters." 40 *Fed. Reg.* 18511. The notice stated in pertinent part that the Commission had received the foregoing advice and information "pursuant to section 105c. of the Atomic Energy Act of 1954" and (*ibid.*):

> Any person whose interest may be affected by this proceeding may, pursuant to §2.714 of the Commission's "Rules of Practice," 10 C.F.R. Part 2, file a petition for leave to intervene and request a hearing on the antitrust aspects of the application. Petitions for leave to intervene and requests for hearing shall be filed by May 28, 1975 . . . .

No such petitions were filed.

3. **The health, safety and environmental hearings.** About six months after it had noticed the opportunity for antitrust hearings, the Commission published a separate notice of opportunity for hearings on the radiological health, safety and environmental aspects of the Marble Hill construction permit application. 40 *Fed. Reg.* 47219 (October 8, 1975). The notice advised persons whose interests might be affected of their right to petition for leave to intervene and fixed November 7, 1975 as the last day for filing such petitions, a deadline later extended to November 28, 1975. On that latter date the Municipal Power Association filed its petition to intervene.

---

[1] Municipal Power Association Brief, pp. 1-2, 6.

The Association's petition expressed support for the application to build the Marble Hill facility. But it complained that the applicant had excluded the Association from participation in the facility, assertedly contrary to the conditions recommended by the Attorney General by which the applicant had agreed to abide. The petition asked the Board to give the Association additional time to negotiate for participation, but "if the applicant resists" such an extension, then that "the issues set for hearing by the [Licensing] Board be expanded to include antitrust issues pursuant to Section 105(c) [*sic*] of the Atomic Energy Act and that a hearing be held thereon."[2]

The applicant and the NRC staff opposed the Association's petition to intervene on the ground that it sought to raise antitrust matters outside the Licensing Board's jurisdiction. The Board agreed that its jurisdiction was limited to the health, safety and environmental aspects of the Marble Hill application. Accordingly, on January 19, 1976, it entered an order denying intervention. The Association's timely appeal from that order is properly before us under 10 C.F.R. §2.714a.

## II

The Municipal Power Association argues that it was within the realm of the Licensing Board's "sound discretion" to open the health and safety proceedings to antitrust issues, and that its refusal to do so "was arbitrary and constitutes an abuse of the Board's discretion."[3] The Association cites no authority for that proposition and we agree with the Licensing Board that it is footless.

1. Congress has vested authority to administer the licensing provisions of the Atomic Energy Act in the Nuclear Regulatory Commission.[4] The Commission in turn is authorized by that Act to have atomic safety and licensing boards preside over adjudicatory proceedings, which boards may be convened "to conduct such hearings as the Commission may direct."[5] Thus, like ourselves, licensing boards "are delegates of the Commission and exercise only those powers which the Commission has given [them]."[6]

Appreciating that it did not have plenary jurisdiction, the Licensing Board quite properly recognized that before it could consider the Association's intervention petition on the merits, it first had to determine whether it had been empowered to hear and decide antitrust matters. The Board correctly reviewed the Commission's hearing notices governing the case before it to make that

[2] Municipal Power Association's Petition to Intervene, p. 12.

[3] Municipal Power Association Brief, p. 11.

[4] Energy Reorganization Act of 1974, as amended, §201(f) and (g), 88 Stat. 1243, 42 U.S.C. §5841(f) and (g).

[5] 42 U.S.C. §2241.

[6] *Northern Indiana Public Service Company* (Bailly Generating Station, Nuclear 1), ALAB-249, 8 AEC 980, 987 (1974).

determination.[7] No one disputes that the Board below rightly characterized the notice pursuant to which it was sitting as inviting consideration only of "radiological health and safety and environmental matters relating to the proposed facility." Nor is it denied that the Commission had previously noticed opportunity for a separate hearing on antitrust issues pertaining to this facility, to which no one responded. Essentially from these two considerations the Board reasoned that the Association's "petition is not within [its] jurisdiction . . . and cannot be considered."

The Board's conclusion was entirely sound. As the staff correctly points out, it is established Commission policy to hold hearings on antitrust aspects of license applications "separately from the hearing held on matters of radiological health and safety . . . ." 10 C.F.R. Part 2, App. A., §X(e). In furtherance of this policy, the Rules of Practice provide that, "unless the Commission determines otherwise," a hearing on the antitrust aspects of an application will be considered at a proceeding other than the one convened to hear environmental and safety matters. 10 C.F.R. §2.104(d). The Commission's own decisions confirm this. See *Duke Power Company* (Oconee Nuclear Station, Units 1, 2 and 3), 4 AEC 592 (1971); and *Boston Edison Company* (Pilgrim Nuclear Power Station), 4 AEC 666, 668-70 (1971).

We harbor no doubt that, if it so chose, the Commission could direct a licensing board to hold a combined antitrust-construction permit hearing. But that is a far cry from saying that a licensing board has discretion to do so absent Commission approval. As we said in *Midland*, "[e]xcept where it recuses itself in a particular case, a licensing board's actions can neither enlarge nor contract the jurisdiction conferred by the Commission."[8]

2. The Commission's policies regarding separate hearings are neither unreasonable nor unfair. To the contrary, they mirror intentions clearly expressed by Congress when the prelicensing antitrust review provisions of the Atomic Energy Act—section 105c.—were amended to their present form in 1970. During the period preceding passage of amended section 105c., various parts of the country were experiencing brownouts and, for this reason, Congress became worried about the need for additional electric power.[9] Because prelicensing antitrust review would have to be completed for future applications before a construction permit for a nuclear power plant could be issued,[10] the legislature

---

[7] 10 C.F.R. §2.717(a); *Consumers Power Company* (Midland Plant, Units 1 and 2), ALAB-235, 8 AEC 645, 646 (1974).

[8] *Midland, supra*, ALAB-235, 8 AEC at 647.

[9] See, *e.g.*, Representative Hollifield's remarks in the House Debates on the amendment, 116 Cong. Rec. 9444 (daily ed. Sept. 30, 1970). [Hereinafter cited as *House Debates*].

[10] Except in circumstances not present here, Commission decisions make clear that section 105c. precludes the issuance of a construction permit prior to a prelicensing antitrust review without the consent of all the parties involved. *Louisiana Power and Light Co.* (Waterford Steam Electric Generating Station, Unit 3), CLI-73-7, 6 AEC 48, 50 fn. 2 (1973); and CLI-73-25, 6 AEC 619, 621-22 (1973).

was concerned lest that review cause lengthy and costly delays in the construction of those power plants.[11] Rather than imposing a specific time limit for completing that antitrust review, however, the Joint Committee on Atomic Energy (the author of section 105c.), in its Report on the bill embodying that provision, stressed that construction permit and antitrust hearings should be heard simultaneously, but before different boards.

> The committee expects and will urge the Commission to make every reasonable effort to deal with the potential antitrust feature under subsection 105c. of the bill fully but expeditiously. *Clearly, a separate board or boards should be utilized in the implementation of paragraphs (5) and (6) of subsection 105c.* The Committee anticipates that all the functions contemplated by these paragraphs would be carried out before the radiological and safety review and determination process is completed, so that the entire licensing procedure is not further extended in time by reason of the added antitrust review function. (Emphasis supplied.)[12]

The Commission's practice of convening separate boards to consider the antitrust matters apart from the radiological health and safety considerations of an application is thus fully consistent with the legislative history of section 105c. Indeed, it would conflict with congressional expectations to do otherwise.

Moreover, the expertise needed to decide complex antitrust matters does not necessarily encompass the knowledge required to resolve equally difficult technical and scientific issues. The use of two boards thus has another significant advantage. As Congress appreciated, they can be staffed with members having qualifications particularly attuned to the individual tasks put before them. Therefore, in conjunction with amending section 105c., Congress also changed section 191 of the Atomic Energy Act to delete the requirement that two members of each licensing board be "technically qualified." Instead, section 191 now provides that those members possess "such technical *or other qualifications* as the Commission deems appropriate to the issues to be decided."[13] (Emphasis added.) The Joint Committee explained that "[i]f the Commission is to consider potential antitrust situations as part of its licensing process, as specifically provided for in the bill, it will be necessary as a practical matter that the Commission be authorized to have such expertise on the Boards as is desirable in relation to the issues."[14] (Now, as then, the third board member must be

---

[11] See, *e.g.*, H. R. Rep. No. 91-1470, 91st Cong. 2nd Sess. 13, 15-16 (1970) [hereinafter cited as *Joint Committee Report*]; Representative Hosmer's remarks, *House Debates* at 9447; Senator Pastore's remarks in the *Hearings on Prelicensing Antitrust Review of Nuclear Power Plants Before the Joint Committee on Atomic Energy*, 91st Cong. 1st and 2nd Sess., pt. 2 at 448-49 (1970) [hereinafter cited as *Hearings*].

[12] *Joint Committee Report* at 15-16.

[13] 42 U.S.C. §2241.

[14] *Joint Committee Report* at 15; see also *Hearings*, pt. 1, at 90 and 292.

"qualified in the conduct of administrative proceedings.") The Commission has generally used this flexibility, as Congress intended, to appoint lawyers and economists to sit on boards hearing antitrust cases, while placing scientists and engineers on boards reviewing health, safety and environmental considerations.

3. Thus, even if the Licensing Board had the option to entertain the Municipal Power Association's petition, its refusal to do so would not have abused its discretion. Admitting the Association into the proceeding would have placed antitrust issues before a board composed of members chosen for technical rather than antitrust qualifications. Moreover, allowing intervention would have prolonged the hearing considerably. The Association argues that the issues it would raise are "tightly drawn" and that the present Licensing Board "would not [be burdened]" to consider them "briefly."[15] In our judgment, such is not the case. The Association seeks a full hearing on the antitrust matters involved if the applicant resists (as it is doing) the extension of a deadline for negotiating intervenors' participation in the Marble Hill Nuclear Generating Station. To resolve these issues, the Licensing Board would necessarily have to determine whether a situation inconsistent with the antitrust laws exists and whether that situation is being "maintained" or was "created" by the applicant's activities. By no stretch of the imagination is this a "tightly drawn" issue which the Licensing Board could dispose of in short order. From experience we know that litigation of similar issues in other antitrust hearings under section 105c. has taken as much as three years. To have allowed the Association's intervention in this proceeding would virtually have guaranteed a substantially delayed resolution of the health, safety and environmental issues respecting the proposed Marble Hill facility.

In sum, for the Licensing Board to have admitted the Association's antitrust contentions in this proceeding would not only have exceeded its jurisdiction, but would have been inconsistent with the reasons that originally led Congress to allow creation of separate boards for the resolution of antitrust issues. Even assuming *arguendo* that it was within the realm of the Licensing Board's "sound discretion" to enlarge this health and safety hearing to include antitrust issues, it was plainly no abuse of that "discretion" to refuse to do so in the circumstances presented here.

## III

Having agreed with the Board below that it lacked jurisdiction to entertain the Association's petition, it is not appropriate for us to reach the merits of the Association's contentions and we do not do so. Accordingly, we intimate no views on whether a claim under section 105c. is stated by the Municipal Power

[15] Municipal Power Association Brief, p. 11.

Association's assertion that it is being improperly denied access to the Marble Hill facility, or whether the late filing of the Association's petition is justified by special circumstances in the case. The Commission has not delegated authority to decide those questions; if such matters are to be entertained by a licensing board, the Commission must be asked to appoint one for that purpose.

The decision of the Licensing Board is *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-317

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of
GULF STATES UTILITIES COMPANY
(River Bend Station, Units 1 and 2)

Docket Nos. 50-458
50-459

Mr. Richard M. Troy, Jr., Assistant Attorney General, New Orleans, Louisiana, for the intervenor, State of Louisiana.

Mr. Will Pozzi, Baton Rouge, Louisiana, intervenor *pro se.*

Messrs. Troy B. Conner, Jr. and Mark J. Wetterhahn, Washington, D. C. (Mr. Stanley Plettman, Beaumont, Texas, of counsel) for the applicant, Gulf States Utilities Company.

Mr. Lawrence Brenner for the NRC Staff.

Upon appeals in construction permit proceeding from the Licensing Board's partial initial decision (LBP-75-50) on environmental and site suitability matters, the Appeal Board rules that: (1) The State of Louisiana which intervened as an "interested State" under 10 C.F.R. §2.715(c), and thereafter participated in the licensing board hearing, is a "party" for the purposes of appellate rights conferred by 10 C.F.R. §2.762(a); (2) the Licensing Board was justified in using probable as well as proven resources in determining the likely sufficiency of the uranium supply; and (3) there is insufficient evidence on the record to support the Licensing Board's determination of the efficiency of utilization of the uranium fuel in the reactors.

Appeals granted to the extent that they challenge the adequacy of evidentiary support for the Licensing Board's findings on fuel utilization efficiency; portion of initial decision containing those findings is vacated. The Licensing Board is directed to conduct further evidentiary proceedings on that

issue. Limited work authorization allowed to remain in effect, but expanded limited work authorization or construction permits barred pending resolution of fuel utilization efficiency question.

**RULES OF PRACTICE: APPELLATE REVIEW**

A state which intervenes under 10 C.F.R. §2.715(c), and thereafter participates in a licensing board hearing, is a "party" for the purposes of appellate rights conferred by 10 C.F.R. §2.762(a).

**TECHNICAL ISSUE DISCUSSED:** efficiency of utilization of uranium fuel

## MEMORANDUM AND ORDER

**March 4, 1976**

Before us are the appeals of Will Pozzi and the State of Louisiana from the September 2, 1975 partial initial decision of the Licensing Board in this construction permit proceeding involving the River Bend Station, Units 1 and 2. LBP-75-50, NRCI-75/9 419. That decision addressed environmental and site suitability matters and paved the way for the issuance under 10 CFR 50.10(e) of a limited work authorization for the facility.

We have elected to examine the issues raised by the appeals without abiding the event of the Licensing Board's disposition of the remaining radiological health and safety matters before it. Our conclusion on that examination is that the appeals present but a single serious issue: whether the record adequately supports the Board's ultimate finding that there will be sufficient uranium to fuel the River Bend facility over its projected lifetime. NRCI-75/9 at 455. That issue was properly raised in the exceptions of both Mr. Pozzi and Louisiana. But, of the two appellants, only Louisiana has briefed it in detail and responded to this Board's request that the parties file supplemental memoranda.

I

Before turning to the merits of the uranium supply question, we must consider the applicant's claim that Louisiana's appeal is not cognizable by us. This claim is founded on the fact that the State had not intervened in the proceeding as a "party" under the provisions of Section 2.714 of the Rules of Practice, 10 CFR 2.714. Rather, the State had invoked instead Section 2.715(c), 10 CFR 2.715(c), which directs licensing boards to "afford a representative of

an interested State *which is not a party* a reasonable opportunity to participate and to introduce evidence, interrogate witnesses, and advise the Commission without requiring the representative to take a position with respect to the issues" (emphasis supplied). This being so, the applicant reasons, an appeal by the State is foreclosed because Section 2.762(a), 10 CFR 2.762(a), authorizes only a "party" to take such a step.[1]

Although the question appears to be one of first impression,[2] we encounter little difficulty in answering it in the State's favor. To begin with, unless compelled to do so by a clear manifestation of a Commission intent to achieve that result, we should be most hesitant indeed to hold that a State which has actively participated in the hearings before the Licensing Board is precluded from bringing to us its dissatisfaction with the outcome. There is, of course, every good reason not to permit one who had remained on the sidelines while the record was being developed to inject himself into the proceeding for the first time on the appellate level should the Licensing Board's decision prove not to his liking. But those reasons have no readily perceptible application in the case of a State which, although having chosen to pursue the Section 2.715(c) rather than the Section 2.714 route for entry into the proceeding, nonetheless assumed an active role in the hearing. In this instance, it should be noted, Louisiana did precisely that on the uranium supply issue to which its appeal is confined. It offered the testimony of two witnesses of its own and, in addition, extensively cross-examined the only other witness on the issue (who testified on behalf of the NRC staff).

---

[1] Section 2.762(a) provides in relevant part that "[w]ithin 7 days after service of an initial decision, any party may take an appeal to the Commission by the filing of exceptions to that decision or designated portions thereof." The term "initial decision" has always been understood to encompass partial initial decisions. There is no other provision in the Rules of Practice which purports to confer a right of appeal from initial decisions, whether partial or final.

[2] In *Tennessee Valley Authority* (Bellefonte Nuclear Plant, Units 1 and 2), ALAB-237, 8 AEC 654, 655 fn. 1 (1974), we expressly reserved decision on the question in the course of holding that Section 2.762(a) precludes an appeal from an initial decision by a non-governmental organization which had not intervened as a party under Section 2.714 (and, of course, did not have available to it the right to participate on a more limited basis conferred by Section 2.715(c)).

It is true as the staff points out that, in *Philadelphia Electric Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13 (1974), we entertained an appeal filed by the State of Maryland even though the State had participated below under Section 2.715(c) (see LBP-73-32, 6 AEC 724, 726, fn. 4 (1973)). Our jurisdiction over that appeal does not appear, however, to have been either raised by a litigant or considered by us. Accordingly, we do not regard ALAB-216 as having any precedential significance on the point. For the same reason, no weight can be attached to any other prior instance in which a Section 2.715(c) intervenor has been permitted to invoke the appellate process in the absence of any challenge to its entitlement to do so.

Is there, then, some concrete indication that the use of the word "party" in Section 2.762 was intended to bar an appeal by a State which intervened in the proceeding under Section 2.715(c) and thereafter participated in the hearings? The applicant has called our attention to none and, moreover, our own independent inquiry has disclosed none. To the contrary, what meager evidence there is of the likely purpose of the framers of Section 2.762 looks, if anything, in precisely the opposite direction.

As the staff stresses in support of Louisiana's right of appeal, the "interested State" provisions of Section 2.715(c) have a statutory foundation. Subsection l. of Section 274 of the Atomic Energy Act, 42 U.S.C. 2021(l), expressly provides that:

> With respect to each application for Commission license authorizing an activity as to which the Commission's authority is continued pursuant to subsection (c) of this section, the Commission shall give prompt notice to the State or States in which the activity will be conducted of the filing of the license application; and shall afford reasonable opportunity for State representatives to offer evidence, interrogate witnesses, and advise the Commission as to the application without requiring such representatives to take a position for or against the granting of the application.[3]

Consequently, not merely as a matter of regulation but as a matter of congressional command as well, a State must be given a "reasonable opportunity" to "advise the Commission" on the issues presented by a construction permit or operating license application.

It is true that, at the time of the enactment in 1959 of Section 274 of the Act, and for several years thereafter, no one was entitled to prosecute an appeal within the Commission from an adverse trial level decision.[4] We agree with the staff, however, that the phrase "advise the Commission" is sufficiently broad to support a conclusion that, once a formal administrative appellate process was established in 1966,[5] an "interested State" which had participated at trial had to be afforded the right to invoke that appellate process in the furtherance of its

---

[3] Subsection c., referred to in subsection l., continued the Commission's authority with respect, *inter alia*, to the regulation of "the construction and operation of any production or utilization facility." There is thus no room for doubt that subsection l. applies to reactor licensing proceedings.

[4] The most that a dissatisfied litigant might do was to request the Commission to review the decision in the exercise of its discretion.

[5] 31 *F.R.* 4339 (March 12, 1966). Between 1966 and 1969, appeals were entertained by the Commission itself. In 1969 that function was delegated to the newly created Appeal Board.

advisory role.[6] But we need not go so far here as to hold that, were the term "party" as used in Section 2.762(a) given the narrow scope suggested by the applicant, that Section would be brought into necessary collision with the Act. For, in any event, Section 2.762(a) must be read *in para materia* with the provisions of both statute and regulation which extend to a State the privilege of providing advice to the Commission. So read, it is reasonable to conclude that the Commission did not intend to erect an impenetrable barrier to continued "interested State" involvement in a licensing proceeding upon the arrival of the appellate stage.

There is still a further consideration which assists the conclusion that, although not a "party" on the licensing board level, an "interested State" nonetheless should be deemed a "party" for appellate purposes. It seems quite apparent that the Section 2.714–Section 2.715(c) sponsored dichotomy between a "party" and a "non-party" is rooted in the fact that, to obtain intervention as a "party" under the former Section, one must put forth specific contentions; in contrast, an "interested State" intervenor under the latter Section "need not take a position with respect to the issues." In other words, the non-party status of an "interested State" when before the Licensing Board simply reflects the fact that the State is not required, as is normally expected of a party, to take a positive stand on the issues to be decided. When the matter of an appeal comes into the picture, however, the situation is quite different. To take an appeal under Section 2.762(a), a State—irrespective of the precise basis upon which it participated below—must file exceptions setting forth the errors of fact or law which it considers the Licensing Board to have made in the initial decision. In short, there is no such thing as an appellant which need not "take a position with respect to [any] issues." Thus, in interpreting appellate rules such as Section 2.762(a), there is no occasion, let alone compelling necessity, to carry over the distinction between a "party" and a "non-party" recognized in the rules pertaining to the status and obligations of participants on the licensing board level.

For all of these reasons, we decide that a State which has intervened under Section 2.715(c), and thereafter participated in the licensing board hearings, is to be treated as a "party" for the purposes of the appellate rights conferred by by Section 2.762(a). The short of the matter is that both statute and regulation

[6] At least this much is clear: there is nothing in the terms or legislative history of Section 274 in general or subsection l. in particular which could be taken as reflecting a congressional belief that the State's role in a licensing proceeding must inevitably end upon the rendition of an initial decision. Subsection l. was thought by the Joint Committee on Atomic Energy to provide "appropriate recognition of the interest of the States in activities which are continued under Commission authority." S. Rept. No. 870, 86th Cong., 1st Sess. (1959), U. S. Code Cong. & Adm. News (1959), 2872, 2883. See also, *Hearings on Federal-State Relationship in the Atomic Energy Field* before the Joint Committee on Atomic Energy, 86th Cong., 1st Sess., 300, 312 (1959).

explicitly authorize States to participate in our licensing proceedings and to "advise the Commission" on the matters considered therein. That authorization dispels all reasonable doubt that a State is free to "advise" us, by an appeal if necessary, of its views regarding the correctness of an initial decision.[7] Accordingly, Louisiana's appeal here is properly before us.

## II

We now examine the merits of the appeals. The thrust of the exceptions on the fuel supply issue is that there is inadequate evidence in the record to justify the Licensing Board's findings that there will be sufficient uranium to supply the River Bend reactors for their anticipated lifetime. The argument is two-pronged—first, that the quantity of the uranium supply is uncertain and, second, that the actual efficiency of utilization of the uranium fuel in light water reactors has not been demonstrated on the record. We will consider these two facets of the appeals *seriatim.*

### A. EXTENT OF URANIUM RESOURCES

The dispute below between the parties regarding how much uranium will be available to fuel the River Bend reactors over their projected lifetime centered upon whether consideration had to be restricted to already reasonably proven resources. Both Louisiana's expert witness on uranium supply, Professor Raphael Kazmann, and the staff's witness on the same subject, John A. Patterson, agreed that these *proven* resources will not be adequate (even assuming a reasonable degree of fuel burnup efficiency).[8] In Mr. Patterson's view, however, it is appropriate to consider—in determining the likely sufficiency of the uranium supply—not only established resources but "probable" resources as well.[9] In this connection, he provided the Board with his estimate as to how much uranium would be derived from sources which the federal energy agency employing him, the Energy Research and Development Administration, is now exploring.[10] Dr. Kazmann, on the other hand, expressed

[7] We need not and do not reach the question as to whether, because of its entitlement to "advise the Commission," an "interested State" would be free to file exceptions to portions of an initial decision dealing with issues to which the State's participation below was not addressed. As we have earlier noted, Louisiana's appeal here is not of that stripe.

Moreover, it should scarcely require emphasis that an "interested State" is not, by reason of that status, relieved of the obligation of complying with all procedural rules pertaining to the prosecution of appeals. As Louisiana here implicitly recognized, as a "party" for appeal purposes it is subject to all of the requirements which must be observed by other parties before this Board.

[8] Kazmann, Tr. 596, 609; Patterson testimony, foll. Tr. 842, at Fig. 4.

[9] Patterson testimony (fn 8, *supra*) at pp. 6-7.

[10] *Id.* at p. 8 and Fig. 4.

doubt as to the propriety of relying upon uranium resources not as yet shown to exist as a matter of virtual certainty.[11]

The Licensing Board resolved this disagreement against Louisiana and went on to accept Mr. Patterson's estimate of the likely total available uranium supply. NRCI-75/9 at 454-55. It pointed out in this connection that Mr. Patterson

> . . . had been involved in exploring for, estimating, studying and evaluating U. S. uranium resources for over 20 years and in supervising Government research teams performing such work. As Chief, Supply Evaluation Branch, Division of Production and Materials Management, ERDA, it was the specific duty and official responsibility of his government agency and his particular staff to do the kind of study, analysis and evaluation leading to the precise determination the Board was searching for on the subject of present and future domestic uranium availability. Accordingly, his figures and his opinions in this area are entitled to great weight. (John A. Patterson Education and Experience, following Tr. 839).

*Id.* at 455, fn. 13.

Although Louisiana's exceptions appear to complain of this result, its brief leaves us in doubt as to how strongly it is pressing the point. For it is there stated:

> Counsel for the State might have preferred that an investment as great as River Bend, let alone 234 other reactors, be based more on certain knowledge and less on expert optimism; but the situation with respect to supply seems to have been fairly stated by the witness. He told what he knew, what he thought, and what he hoped, and fairly labeled each.

Be that as it may, we have been given scant reason to overturn this aspect of the Licensing Board's decision. It is not asserted by the State that there are no potential sources of uranium beyond those now positively identified; rather the claim appears to be simply that their extent cannot be precisely ascertained at this time. Although this is quite true, we are unaware of any authority to support the State's apparent belief that licensing decisions may not be based upon probabilities. As the Licensing Board determined and the State does not question, Mr. Patterson was qualified by education and experience to make an informed, expert judgment on the total amount or uranium which in all likelihood would be available over the next 40 years. In this circumstance, we think that the estimates he furnished could justifiably be taken as the foundation for findings on projected uranium supply.

[11] Tr. 597-98.

## B. EFFICIENCY OF UTILIZATION OF URANIUM FUEL

Acceptance of the Patterson estimates respecting the anticipated amount of uranium which will be available over the life span of the River Bend facility did not, however, end the inquiry below on the uranium supply question. What also had to be considered was the rate of uranium utilization which could reasonably be expected in the case of River Bend and the other light water reactors which foreseeably will be operating during that period. For, as no one seemingly disputes, an informed judgment on whether the projected supply will be sufficient to meet the fuel needs of all of those reactors cannot be made without an ascertainment of the amount of uranium which they are likely to consume.

On this score, the State's position is essentially that there is insufficient evidence in the record on which the Licensing Board could assign a value to the "duty factor"[12] for reactors such as River Bend. Our preliminary review of the record to determine the validity of this claim disclosed, however, that the Preliminary Safety Analysis Report (PSAR) for the facility at bar does contain some data on the expected fuel performance of the facility based on the experience of a few reactors now operating. It further appeared to us that these data, combined with information adduced through the testimony of a witness for the State, Morgan G. Huntington,[13] possibly might provide a sufficient basis for the derivation of reliable duty factor estimates for the River Bend type of facility (*i.e.*, a modern boiling water reactor). In an unpublished order entered on November 26, 1975, we apprised the parties of our tentative thoughts on the matter and asked for their views.

---

[12] "Duty factor" was introduced by one of the State's witnesses as shorthand terminology for the "efficiency of utilization of the uranium fuel in a reactor." Although apparently not a recognized word of art, for convenience we shall likewise employ the term in this opinion.

[13] The testimony of Mr. Huntington (following Tr. 1171) included a letter dated October 1, 1970 from George M. Kavanagh, Assistant General Manager for Reactors of the Atomic Energy Commission. Accompanying the letter was an attachment prepared by Mr. Kavanagh and entitled "Response to Issues Raised by Congressman Flood in Congressional Record of June 23, 1970." This response included at p. 7 the following equation for converting the megawatt days per metric ton of uranium metal (MWD/MTU) to kilowatt hours-electrical per short ton of $U_3/O_8$ (Kwh(e)/ST $U_3O_8$):

$$\frac{\text{MWD}}{\text{MTU}} \times A \times B \times C \times D \times E \times F = \frac{\text{kwh(e)}}{\text{ST } U_3O_8}$$

Where A = Thermal-electric efficiency of light water reactors = .33
B = Conversion of metric tons to standard tons = .91
C = Uranium content of $U_3O_8$ = .85
D = Ratio of enriched uranium used in reactor to amount of natural uranium used to produce the enrichment (1/5.5 for 3 wt % fuel)
E = Hours/day = 24
F = kw/mw = 1000

In response, both the applicant and the staff expressed the belief that the PSAR data to which we had referred in our order, together with the equation in the Kavanagh letter brought to light by Mr. Huntington (see fn. 13, *supra*), were not sufficient to derive the duty factors for a reactor. In their view, data on both the initial and final fuel enrichments and the fuel exposure in the reactor would also be required to complete the calculation of the duty factors. Although there had been no focus below on the need for that data, in their supplemental memoranda filed with us these parties endeavored to establish that, on the existing record, the duty factors are nonetheless ascertainable.

More specifically, the applicant and the staff started with the design data for the first cycle of River Bend operation as given in Table 4.3.2-1 of the PSAR.[14] Using these data, they calculated reactor duty factors for the initial cycle, with and without recycling of the uranium. Then turning to the equilibrium cycle,[15] the applicant and the staff assumed (1) an average fuel exposure of 27,500 MWD/MTU; (2) a design fuel enrichment of approximately 3.00 wt % U-235; and (3) a spent fuel assay of 1.00 wt % U-235. On these assumptions, they calculated duty factors for that cycle as well, again with and without recycling of the fuel.

The duty factors arrived at from these calculations, we are told, are in line with those which Mr. Patterson presented below as an integral part of his testimony respecting expected efficiency of fuel utilization (testimony which the Licensing Board relied upon in deciding that there would be an adequate uranium supply to service River Bend's needs). Although this may well be so, it entirely misses the point which Louisiana is making. The State is not complaining of the equation which is being used by the applicant and the staff to calculate duty factors. Rather, its grievance is that there is insufficient data in the record with respect to actual reactor operating experience to confirm the validity of the assumptions which were made in applying the equation.

We think that this point is well taken. For example, in connection with the application of the equation to the first cycle of operation, as previously noted the applicant and the staff rely entirely on the PSAR for the proposition that the River Bend reactors have been *calculated* to yield an average fuel burnup of 7200 MWD/ST from fuel which has an initial average enrichment of 1.70 wt % U-235 and an average spent fuel enrichment of 1.03 wt % U-235 at the end of the first cycle.[16] But there is no record evidence that the analytical methods and

---

[14] This table (entitled "Additional Physics Isotopic Data") assumes a first cycle fuel exposure of 7200 MWD/ST, beginning core enrichment of 1.70 wt % U-235 and end of cycle core enrichment of 1.03 wt % U-235.

[15] "Equilibrium cycle" refers to those fuel cycles occurring after a reactor has completed its first four to six years of operation.

[16] Staff's Response dated December 22, 1975, and applicant's Supplemental Memorandum dated December 26, 1975.

assumptions used to calculate fuel burnup and spent fuel enrichment rest on firm empirical grounds. The analytical methods are described in general (with some reference to burnup or fuel exposure) in Section 4.3.3.1 of the PSAR. Nonetheless, the discussion presented there does not address the methods used in fuel cycle analysis or the reactor operating experience supporting the results of the calculations made.[17]

Beyond that deficiency, both the staff and the applicant have calculated the savings of fuel provided by recycling, and applied those asserted savings, without reference to the processing losses throughout the cycle—despite the fact that Figure A-3.2 of WASH-1224A[18] (cited by the State below) includes data on uranium losses at each stage of the processing cycle. True enough, Figure A-3.2 contains the notation that the data therein were based upon an *unpublished* report dated March 20, 1967, which had been prepared by some person identified only as R. Salmon. But it nonetheless does not seem to us that it should have been disregarded in the absence of some concrete indication that recycling losses are more insignificant than Figure A-3.2 would indicate. In this connection, the staff calculations now given to us reflect that only a part of the natural fuel is utilized in the first cycle with the remainder still being available as spent fuel. Before this spent fuel can be utilized, however, it must be raised again to the 1.70 wt % U-235 required for the enriched fuel supplied to the reactor. It would appear that this would produce further losses in the enrichment process which should be charged to the preceding cycle.

The calculations pertaining to the equilibrium cycle are subject to the same observations. There, too, the record contains no demonstration that the analytical predictions of equilibrium fuel cycles, which involve average burnups of 27,500 MWD/MTU from fuel with initial and discharge U-235 assays of 3.0 and 1.0 wt %, have sound empirical foundations. Indeed, there is not even a demonstration in the record to support extrapolation of existing fuel burnup experience (such as that given in Table 4.2.1-2 of the PSAR) to the projected value of 27,500 MWD/MTU used in the calculations of fuel utilization factors for the equilibrium cycle.[19]

---

[17] In addition, it is worthy of note that the applicant and the staff must be implicitly assuming that the fuel utilization efficiency of River Bend will essentially be the same as the efficiency of all other modern light water reactors. This is because the available uranium resources will have to be shared by all of these reactors. River Bend being a boiling water reactor, this applicant may not have been in a position itself to furnish much, if any, empirical data relating to pressurized water reactors. The staff, however, should have been able to supply sufficient data along that line to permit a determination whether the fuel utilization efficiencies of the two varieties of light water reactors are roughly equivalent.

[18] WASH-1224A, Appendix to an Atomic Energy Commission report entitled "Comparative Risk-Cost-Benefit Study of Sources of Electrical Energy."

[19] The value of 27,500 MWD/MTU is presented in Table 4.2.1-2 as a "typical design value as opposed to proven performance in preceding entries."

In sum, on the present state of the record, we are constrained to grant the exceptions of Louisiana and Mr. Pozzi to the extent that they challenge the adequacy, for want of sufficient empirical bases, of the evidentiary support for the Licensing Board's findings on fuel utilization efficiency. The portion of the partial initial decision which contains those findings is hereby *vacated* and the Licensing Board is *directed to conduct further evidentiary proceedings* on the fuel utilization efficiency question in accordance with the views expressed in this opinion.

There remains to be considered whether the outstanding limited work authorization should be allowed to remain in effect pending the outcome of those proceedings. To assist our determination in this regard, we requested the applicant to advise us formally as to the present status of the work being performed under the authorization. We are now informed that, although a substantial portion of the clearing and grading of the site has been completed, much of the other authorized work is still to be done.

It thus appears that in large measure the environmental impact associated with activities under the limited work authorization has already been sustained. Beyond that, neither Louisiana nor Mr. Pozzi has asked that the limited work authorization be lifted while, at their behest, the fuel utilization efficiency question is more completely explored. For these reasons, we do not disturb the authorization at this time. We shall expect, however, the additional proceedings to be conducted with expedition. In this connection, given the nature and limited scope of the evidence to be adduced, we would think that the hearing could readily be held within 60 days with a supplemental decision rendered on the issue within 45 days thereafter. Depending upon the findings made in that decision, the Licensing Board is either to reaffirm the September 2, 1975 partial initial decision or to order the revocation of the limited work authorization.[20] In no event shall a second limited work authorization or a construction permit be issued unless and until the Board has resolved the fuel utilization efficiency question in the applicant's favor.

It is so ORDERED.[21]

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

[20] Needless to say, all past and future construction activities under the aegis of the limited work authorization have been and will be at the risk of the applicant. Consequently, the Licensing Board's determination as to the fate of that authorization is not to be influenced to any extent by how much or little an investment the applicant may have made in site preparation.

[21] Our review of the remaining exceptions of Mr. Pozzi has convinced us both that they are totally without merit and that no discussion of them in this opinion is warranted.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-318

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of

LONG ISLAND LIGHTING COMPANY

(Jamesport Nuclear Power Station Units 1 and 2)

Docket Nos. 50-516
50-517

Mr. Irving Like, Babylon, New York, for the intervenor, County of Suffolk, New York

The Appeal Board, relying on its ruling in ALAB-314, denies an intervenor's motion for a directed certification of questions raised by interlocutory discovery rulings of the Licensing Board.

RULES OF PRACTICE: CERTIFICATION

An appeal board is not inclined to direct certification under 10 C.F.R. 2.718(i) of questions raised by interlocutory rulings made at the discovery stage of a proceeding which do no more than decline to require responses to some interrogatories.

## MEMORANDUM AND ORDER

March 16, 1976

In a series of orders entered within the last two months in this construction permit proceeding, the Licensing Board sustained objections interposed by the applicant and the NRC staff to certain interrogatories served upon them by an intervenor, County of Suffolk, New York. Suffolk now asks us to review this

action through resort to our authority to direct certification of questions raised before licensing boards. 10 CFR 2.718(i).

Less than three weeks ago, we summarily rejected an attempt in another proceeding to have us examine, on the same basis, rulings of a licensing board bearing upon the manner in which evidence was to be received. *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Unit 1), ALAB-314, NRCI-76/2 98 (February 26, 1976). What we said there applies equally here. Indeed, if anything, there is even less justification to invoke our directed certification authority in circumstances where the interlocutory rulings under attack were made at the discovery stage of the proceeding and did no more than to decline to require responses to some interrogatories.

---

Motion for a directed certification *denied.*
It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA ALAB-319
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. John H. Buck
Dr. Lawrence R. Quarles

In the Matter of Docket Nos. 50-3
50-247
50-286

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

(Indian Point, Units 1, 2 & 3)

Mr. David S. Fleischaker, Washington, D. C., for the intervenor, Citizens' Committee for Protection of the Environment.

Messrs. Harry H. Voigt and Lex K. Larson, Washington, D. C., for the Consolidated Edison Company of New York, Inc.

Mr. Frederic S. Gray for the NRC staff.

Upon motion by intervenor in special seismic proceeding to stay the grant of an authorized but not yet issued operating license for Indian Point Unit 3 pending the completion of that proceeding, the Appeal Board rules that the intervenor has supplied no facts which would warrant such a stay; and that the ground on which intervenor relies (failure of an adjudicatory board to make findings on the seismic questions prior to grant of an operating license) is inadequate since in the circumstances that decision has become the responsibility of the NRC staff.

Motion denied without prejudice to intervenor's right to seek similar relief upon a showing of sufficient factual basis therefor.

## OPERATING LICENSE PROCEDURES: RESPONSIBILITY OF NRC STAFF

Once a licensing board in an operating license proceeding has resolved any contested issues and any issues which it raises *sua sponte*, the decision as to all

other matters which need to be considered prior to the issuance of the operating license is the responsibility of the NRC staff alone. 10 C.F.R. §2.760a.

## MEMORANDUM AND ORDER

### March 16, 1976

The NRC staff is considering whether to give the Consolidated Edison Company permission to operate the third nuclear reactor which it has built on the *Indian Point* site overlooking the Hudson River in New York's Westchester County.[1] The Citizens Committee for Protection of the Environment (CCPE) has asked us to block the grant of an operating license pending the completion of the further inquiry into the seismic characteristics of the *Indian Point* site which we are conducting in this specially-convened proceeding.[2]

CCPE points to no facts relating to safety which might require us to do what it asks. Its theory is a more abstract one. It is founded upon the unexceptionable proposition that findings regarding the adequacy of a plant's seismic design must be made before an operating license can be issued. Invoking this proposition, CCPE argues that, because no *adjudicatory tribunal* has made the necessary safety findings, the license must be withheld. That theory, however, ignores the nature of the system established by the Commission for passing upon operating license applications. In many circumstances, including those present here, the *staff* has the authority to make the requisite findings and to issue an operating license without prior board approval. In view of the express terms of the Commission order convening this proceeding,[3] we can interfere with the staff's exercise of that authority only if given factual justification for doing so. No such justification has been presented to us.

A. Full understanding of why CCPE's stay motion must be denied requires, first, an appreciation of the system established for the granting or denying of operating licenses, and second, an awareness of the prior proceedings that have taken place concerning the Unit 3 reactor. We discuss below both that system and those prior proceedings.

1. Construction permits and operating licenses are issued by the NRC staff. Insofar as construction permits are concerned, such issuance may not take place unless and until, following a public hearing, a licensing board has not only resolved all contested issues but has also made all the other findings which are

[1] Units 1 and 2, constructed earlier, have already received operating licenses.

[2] CCPE has not asked us to lift the license for Unit 2, which is now operating. (Unit 1 has been shut down for some time for reasons unrelated to this proceeding.)

[3] CLI-75-8, NRCI-75/8 173 (August 4, 1975).

prerequisite to the issuance of the permit.[4] At the operating license stage, however, the situation is significantly different. If no one opposed to the grant of the license (or any of its conditions) exercises the opportunity to intervene and to request a hearing, no hearing ordinarily will be held.[5] In that situation, the decision whether and on what terms to issue an operating license is left entirely to the staff, which makes its decision on all relevant safety matters without consulting with or obtaining the approval of a licensing board.

Even where a hearing is requested at the operating license stage, its scope may be far narrower than that of a construction permit hearing. As a consequence, many matters may still be left to the staff for resolution entirely outside the hearing process. This result follows because a board presiding at an operating license hearing does not have the same tasks and does not play the same role that a board does at a mandatory construction permit hearing. Although, as noted, a board must decide at the construction permit stage all matters related to the possible granting of the permit, at the operating license stage it ordinarily passes only upon contested matters.[6] To be sure, the board in an operating license case does have the residual power to delve into any serious matters which it uncovers, even if no party has put them in issue.[7] This power is, however, to be exercised sparingly; an operating license board is neither required nor expected to pass upon all the items which the staff must consider and resolve before it approves the license.[8]

The upshot is that, once an operating licensing board has resolved any contested issues and any issues raised *sua sponte*, the decision as to all other matters which need to be considered prior to the issuance of the requested license is the responsibility of the staff and it alone.[9] On the other hand, the staff may not issue an operating license while the licensing board presiding at the operating license hearing still has any unresolved issues under consideration, even if the staff is satisfied as to all the subjects committed to it for decision.

2. Having outlined the system governing the award of operating licenses, we now recount how that system has functioned with respect to Indian Point Unit 3. We also examine the relationship between the now-completed Unit 3

---

[4] Atomic Energy Act, §189.a., 42 U.S.C. 2239; 10 C.F.R. §2.104(b). Ordinarily, licensing boards function as the triers of fact in the Commission's adjudicatory system. Licensing board decisions are reviewable by appeal boards, whose decisions, in turn, are subject to review by the Commission itself. 10 C.F.R. §§2.762, 2.785, and 2.786. A licensing board decision authorizing a permit or license is effective immediately unless otherwise ordered in a particular case. 10 C.F.R. §2.764.

[5] Atomic Energy Act, §189.a., 42 U.S.C. 2239; 10 C.F.R. §2.105.

[6] 10 C.F.R. §2.760a, as amended 40 *F.R.* 2973 (January 17, 1975).

[7] *Ibid.*; see also 10 C.F.R. §2.104(c), as amended, 40 *F.R.* 2973.

[8] See the statement of considerations accompanying the amendment to the regulations cited in fns. 6 and 7, *supra.*

[9] 10 C.F.R. §2.760a.

operating license hearing and this special seismic proceeding convened by the Commission.

After Consolidated Edison applied for an operating license for Unit 3, the Commission duly published a notice reflecting, *inter alia,* that those opposed to the license could seek to intervene for the purpose of requesting a hearing on the company's application.[10] CCPE, which is attempting here to block issuance of that license, did not seek to intervene in the operating license proceeding when it had the opportunity to do so. Two other private groups interested in the possible adverse effects of the discharge of heated water from the plant[11] did intervene, however, as did the State of New York and the State's Atomic Energy Council (each of which had, as it turned out, somewhat disparate interests). The parties eventually agreed on a resolution of the thermal discharge issues. When their stipulation embodying that agreement was presented to the Licensing Board for approval, the Board decided to hold a short hearing on its validity. The Board also requested that the parties be prepared to address at that hearing concerns which the Board had in specific safety areas.[12] One of those areas involved the seismic design of the plant; the Board's concern had been prompted by certain documents filed and questions raised by the State Council.

During the course of the hearing, brief testimony on the seismic question was adduced.[13] The Board indicated that it would afford the Council the opportunity to present a direct case on seismic issues. Before that could occur, the Council informed the Board, by letter dated April 16, 1975, that it was withdrawing its request that seismic matters be considered in the operating license proceeding and would not there oppose the issuance of the license. It also announced, however, that the seismic issues in which it was interested "would be more fruitfully addressed in . . . a generic forum" where all three units could be considered and that it intended to take that subject up with the Commission itself. Shortly thereafter, the Council filed a petition with the Commission calling for it to inquire further into the adequacy, from a seismic standpoint, of the design of the three reactors. The Commission had other papers before it when it received the Council's pleadings. Specifically, CCPE had some time earlier filed with the staff a petition for an order to show cause why further operation and construction of the Indian Point units should not be halted in

---

[10] 37 *F.R.* 22816 (October 25, 1972).

[11] Similar issues had arisen in connection with the licensing of Unit 2.

[12] See the Board's letters of September 30, 1974 and February 14, 1975, and its February 18, 1975 notice of hearing. The Board's assertion of authority to raise safety concerns *sua sponte* at an operating license proceeding, now expressly confirmed by 10 C.F.R. §2.760a (see fn. 7 and accompanying text, *supra*), had been challenged by the applicant. Ultimately the question was certified to us and then to the Commission, which upheld the Licensing Board's authority. See ALAB-186, 7 AEC 245; CLI-74-28, 8 AEC 7.

[13] Tr. 389-429 (April 1, 1975); see also Tr. 450-53 (April 1, 1975) and 538-51, 727-39 (April 2, 1975).

light of recently-developed seismic data; it had appealed the staff's denial of that petition to the Commission.

The pendency of the seismic-related petitions before the Commission induced the Licensing Board, when it approved the proposed stipulation in the operating license case, to refrain from pressing its seismic inquiry any further. Declining to express a "conclusion on this matter since to do so would appear to prejudge the matter for the Commission," the Licensing Board simply authorized the Director of Regulation "to issue a full-power and full-term license subject to the determination to be made by the Commission respecting the seismic contentions pending before it." LBP-75-31, NRCI-76/6 593, 602-04 (June 12, 1975).

While we were reviewing the correctness of the Licensing Board's order (which also had approved and sent on to us the parties' stipulation on the thermal discharge issue, permitted the Council to withdraw the seismic issues from consideration, and left nothing else to be considered in the operating license hearing), the Commission designated us as a special board to rule upon the merits of the claims made by the State Council.[14] It is in that capacity that we now sit. The Commission further gave us the authority to expand the inquiry in this proceeding into the related matters raised by CCPE's petition, even though it had affirmed the staff's denial of that petition.[15] In that connection, the Commission observed that no party had suggested that the seismic concerns required that there be any cessation of operations at the site during the pendency of our inquiry.[16] It did, however, give us the authority to issue necessary orders in that regard if any facts presented to us warranted such action.[17]

After the Commission turned the seismic proceeding over to us, we passed upon the merits of the order the Licensing Board had entered in the Unit 3 operating license proceeding. ALAB-287, NRCI-75/9 379 (September 3, 1975). Most of what we said there had to do with the stipulation. But we also touched on the Board's handling of the seismic matter. NRCI-75/9 at 387-88. Although, as there indicated, we had earlier expressed some concern on that score, we noted that the Commission's action had "supersede[d] the condition imposed by the Licensing Board" relating to the full operating license, mooted the applicant's exception to that condition, and "obviate[d] the need for our considering (solely in the context of the Indian Point 3 proceeding) whether a limitation on the existing less-than-full-power authorization should be imposed." *Id.* at 388. In effect, we recognized there that the seismic matters were to be handled within the confines of the special proceeding convened by the Commission for that purpose.

---

[14] CLI-75-8, NRCI-75/8 173, 177-79 (August 4, 1975).

[15] *Id.* at 178.

[16] *Ibid.*

[17] *Ibid.*

The Commission elected to review (and in part to vacate) that portion of our order which dealt with the stipulation. CLI-75-14, NRCI-75/12 835 (December 2, 1975). The Commission did not, however, review our handling of the seismic matter; in effect, then, our decision became the final decision of the Commission on that score. In concluding its opinion, the Commission expressly stated that it was "authoriz[ing] issuance of a full-term, full-power operating license." NRCI-75/12 at 840.

B. As is evident from the foregoing, the operating license hearing for Unit 3 has been held and is now over. The fact that CCPE's seismic concerns were not there considered is not attributable to a disregard of either safety considerations or procedural norms. Rather, it is ascribable to (1) CCPE's failure to intervene in that proceeding to press its claims and (2) the State Council's belief that its seismic concerns could be fairly treated in a separate hearing and did not justify withholding the operating license *ab initio*.

Consequently, it has fallen to the staff—rather than the hearing boards—to make the findings concerning adequacy of plant seismic design which must precede the issuance of an operating license. There is nothing unusual about this; it follows from the nature of the system established by the Commission. Indeed, the only difference from the ordinary case is that typically, if a matter is not adjudicated at the operating license hearing, the staff's consideration and disposition of that matter would be final. Here, the staff is similarly free to issue the operating license on its own initiative; however, by reason of this special proceeding, we are called upon to make seismic determinations which might affect the continued validity or terms of the license.

In short, the staff is free to issue the license without abiding the completion of this seismic proceeding. This result is dictated by the very nature of the decision-making process established by the Commission. And it draws additional support from the terms of the two most recent *Indian Point* orders issued by the Commission.

As noted above (see p. 192, *supra*), the first of those orders, issued last August, convened this special proceeding. In it the Commission noted that "none of the parties has suggested there is any need to order a cessation of plant operations at the Indian Point site pending resolution of the seismic issues . . . ." NRCI-75/8 at 178. Although Unit 3 was not operating at that time, the Commission made it clear that it meant its views to encompass all three reactors, for it indicated that operations should continue unless we were given reason to exercise our authority to direct otherwise as "to any or all of the Indian Point units." We read this as reflecting a Commission intention that, as far as it was concerned, all three units would be permitted to operate until we ruled otherwise. This interpretation is virtually compelled, for at that time the Licensing Board had already given its blessing to the issuance of the operating license; as far as the Commission could tell, the license was as good as issued.[18]

[18] See p. 190, *supra*.

Nothing in the Commission's order suggests that it meant, simply by convening the proceeding, to remove the initial licensing authority from the staff where it was then lodged. Moreover, the Commission's grant of authority to us to take appropriate interim action *upon a factual showing of the need to do so* scarcely indicates that we could take such action in the absence of such a showing.

As also noted earlier (see p. 193, *supra*), the second relevant Commission order was entered last December in the Unit 3 operating license proceeding itself. Three months earlier, we had there ruled, *inter alia,* that the steps the Licensing Board had taken in handling the seismic matter—originally of some concern to us—had been superseded by the Commission's action convening this proceeding. Accordingly, we viewed the seismic issues as no longer being before us in that proceeding. The Commission's order was confined to another aspect of our decision; given the importance of the seismic matter, the Commission's silence in that respect suggests concurrence in our appreciation of its status. Of at least equal moment in evaluating the Commission's intent in that regard is its statement expressly authorizing issuance of the full operating license; it would not likely have done this had it considered there to be any open questions in the operating license proceeding.

In this connection, it is highly significant that CCPE has not brought to our attention anything that was not also before the Commission when it issued its August and December orders. In essence, then, CCPE is asking us to take action different from, and more drastic than, that which the Commission deemed appropriate when it reviewed the same material. But we are subordinate to the Commission. Nothing in the Commission's general delegation of authority to us or in its charter convening this specific proceeding gives us the authority to review, much less to overturn, its decisions.

C. We should add that in certain respects the present status of the seismic matter can be best understood by analogy to a post-licensing show-cause proceeding. In both instances, the initial licensing decision, made elsewhere, is subject to being modified to conform to the board's view of the evidence adduced at the hearing. And the board in each case has the authority to modify or suspend the license *pendente lite* upon a showing that the facts require such action in the interest of preserving safety. But in neither instance does the mere pendency of the proceeding call for such action, unless the body convening the proceeding so directs.

Having said all this, we do recognize that CCPE's theory would entitle it to the relief it seeks if the seismic matter were being considered in the ordinary course of an operating license proceeding—in that circumstance, the staff would be precluded from issuing the operating license until the seismic matter were resolved. And seismic matters were brought up at one stage of the operating license hearing. These considerations might be taken by some to indicate that a type of legal legerdemain has occurred, involving the shuffling of the seismic concerns from one proceeding to another, with the possible result that safety

will be compromised before those concerns are aired. This is not the fact. It was the inaction of CCPE and the choice of the State Council which led to the seismic issues being heard here, separate from and subsequent to the operating license proceeding. And the only effect is that the staff, rather than a board, will make the relevant safety findings in the first instance. As we have pointed out, this is not unusual in an operating license proceeding; indeed, in many cases the boards never become involved. Moreover, if CCPE is in possession of facts—and not just abstract theories—which might warrant the relief it seeks *pendente lite*, it is free to call them to our attention.

---

In sum, although CCPE may ultimately establish that it is entitled to the relief it seeks, the ground that it now relies upon is inadequate. Accordingly, its motion is *denied* without prejudice to its right to seek similar relief upon a showing of a sufficient factual basis therefor.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-320

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. Lawrence R. Quarles
Dr. W. Reed Johnson

In the Matter of

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant Units Nos. 1 and 2)

Docket Nos. 50-275 O.L.
50-323 O.L.

Mrs. Sandra A. Silver and Mr. Gordon Silver, North Hollywood California, for intervenors San Luis Obispo Mothers for Peace and John J. Forster.

Messrs. Philip A. Crane, Jr., John C. Morrissey, Dennis C. Sullivan and Bruce R. Worthington, San Francisco, California, for the applicant.

Messrs. James R. Tourtellotte and L. Dow Davis for the Nuclear Regulatory Commission Staff.

Upon motion by intervenors for a stay of further shipments of nuclear fuel to the Diablo Canyon facility site pending resolution of their appeal from the Licensing Board's order authorizing such shipments, the Appeal Board rules that intervenors have not demonstrated cause for granting the extraordinary relief sought.

Motion denied, subject to reconsideration following the forthcoming oral argument on intervenors' appeal.

## ORDER

## March 18, 1976

This matter is before us on the joint motion of intervenors San Luis Obispo Mothers for Peace and John J. Forster dated February 23, 1976. They seek a stay of further shipments of nuclear fuel to the Diablo Canyon facility site in San Luis Obispo County, California, pending resolution of their appeal from the Licensing Board's December 23, 1975, order authorizing such shipments. The applicants and the Nuclear Regulatory Commission staff oppose the intervenors' motion.

Upon review of the papers submitted in support of and in opposition to the motion, and after consideration of the record made before the Licensing Board, we find that intervenors have not demonstrated cause for granting the extraordinary relief they seek in advance of full consideration of the merits of their appeal. See *Wisconsin Electric Power Company* (Point Beach Unit 2), ALAB-58, 4 AEC 951 (1972), and *Virginia Petroleum Jobbers Ass'n* v. *F.P.C.*, 259 F.2nd 921, 925 (D.C. Cir. 1958). We note that oral argument of intervenors' appeal is calendared to be heard by us within two weeks. We therefore deny the motion for a stay subject, however, to our reconsideration after having heard that argument.

Motion for stay *denied.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. DuFlo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-8

ATOMIC SAFETY AND LICENSING BOARD

Douglas V. Rigler, Chairman
Ivan W. Smith, Member
John M. Frysiak, Member

In the Matter of

THE TOLEDO EDISON COMPANY AND THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

(Davis-Besse Nuclear Power Station, Units 1, 2 and 3)

Docket Nos. 50-346A
50-500A
50-501A

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

(Perry Nuclear Power Plant, Units 1 and 2)

Docket Nos. 50-440A
50-441A

March 1, 1976

Upon motion by the Department of Justice to compel production of certain documents already in its possession as a result of a Civil Investigative Demand (CID) under the Antitrust Civil Process Act (15 U.S.C. Sections 1311-14) filed in a separate proceeding, the Licensing Board concludes that: (1) the Antitrust Civil Process Act establishes no inherent barrier to the use of NRC process to obtain documents relevant in NRC proceedings; (2) the Department's request for the documents will not be denied as untimely, since it is made for the purpose of obtaining assertedly relevant documents for direct evidentiary use, rather than for further discovery; and (3) given the absence of an additional burden on or surprise to the applicants, permitting production of the documents does not violate the spirit or intent of the Board's discovery date cut-off rule.

Motion granted. To avoid duplication of documents already introduced into record, Department directed to submit revised list of CID documents it presently intends to attempt to introduce into evidence.

RULES OF PRACTICE: DISCOVERY
(CIVIL INVESTIGATIVE DEMAND)

Documents produced under a Department of Justice Civil Investigative Demand are not foreclosed from production in a federal agency proceeding by either the express terms or the legislative intent of the Antitrust Civil Process Act.

RULES OF PRACTICE: DISCOVERY

A request for document production made by a party after the established termination date for discovery requires a showing of good cause, which is found because the documents not previously produced are specifically thought to offer meaningful support to the party's position with respect to the issues in controversy in the proceeding and impose no production burden on other parties.

## MEMORANDUM OF THE BOARD RELATING TO MOTION TO COMPEL PRODUCTION OF CIVIL INVESTIGATIVE DEMAND DOCUMENTS

On May 1, 1975, in a separate proceeding, the Department of Justice (Department) issued a Civil Investigative Demand (CID) to the Cleveland Electric Illuminating Company (CEI) under the Antitrust Civil Process Act, 15 U.S.C. Section 1311-14. CEI produced the demanded documents on June 27, 1975. On October 31, 1975, the Department applied for a subpoena to CEI under 10 CFR 2.720 for some of the documents produced pursuant to the Demand.

Upon motion of CEI, the Board by Order of November 18, 1975, quashed the subpoena, but granted leave to the Department to proceed under Sections 2.741 and 2.740(f) which provide for the production of documents among parties.[1] We now address the Department's motion to compel production of documents filed November 21, 1975. Physical production of the documents is not required because the Department already has them as a result of the Demand. The Department considers the documents to be unavailable for use in this proceeding unless they are produced under NRC process because of the provisions of the Antitrust Civil Process Act. Tr. p. 5646.

The problem arises because, where documents produced under a Demand are in the possession of the Department's custodian for such documents,

> ... [N]o material so produced shall be available for examination,

[1] See Consumers Power Company (Midland Plant, Units 1 and 2), ALAB-35, 4 AEC 711, 713, Sept. 21, 1971.

without the consent of the person who produced such material, by an individual other than a duly authorized officer, member or employee of the Department of Justice. [15 U.S.C. Section 1313(c)]

Use of the material in this proceeding would, of course, permit examination by others. Section 1313(d) permits the use of Demand-produced documents:

(d) Whenever any attorney has been designated to appear on behalf of the United States before any court or grand jury in any case or proceeding involving any alleged antitrust violation, the custodian may deliver to such attorney such documentary material in the possession of the custodian as such attorney determines to be required for use in the presentation of such case or proceeding on behalf of the United States. . . .

CEI observes that this proceeding is before neither a court nor a grand jury. We are told that documents produced pursuant to Demand under the Antitrust Civil Process Act are beyond the reach of NRC agency process. Our examination of the language of that Act discloses no intent to foreclose the production of documents turned over to the Department during the course of a civil investigation to federal agencies having independent reason to call for their production. Neither have Applicants pointed to anything in the legislative history of the Antitrust Civil Process Act which would give credible support to such an interpretation. Thus, as we approach the controversy with respect to CID documents, we find no legislative barrier, neither by reference to the terms of the ACT itself nor from any expression of Congressional intent to foreclose production in federal agency proceedings.

The test for resolving this motion, as we see it, is whether the documents for which production is being sought are relevant to the proceedings before this Commission and, in this instance, whether they contain materials thought to be of probative value to the Board in reaching its decision.[2] Ordinarily, we would rely solely upon the relevance test set forth in Section 2.740. In this proceeding, however, we require a higher standard of probative value because the Department made application for production after the termination date for discovery established by this Board. Thus, to the extent, if any, that the Department would seek to enlarge or prolong the ample discovery period allocated by this Board, we would require a showing of good cause, i.e., that documents not previously produced are specifically thought to offer meaningful

[2] Rule 2.740(b)(1) provides that: "Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the proceeding: . . ." and that "It is not ground for objection that the information sought will be inadmissible at the hearing if the information sought appears reasonably calculated to lead to the discovery of admissible evidence." Rule 2.740(b)(1) closely parallels Rule 26(b)(1) of the Federal Rules of Civil Procedure.

support of the Department's position with respect to the Issues in Controversy in this proceeding.[3] The Department's request for production probably would be denied as untimely if it were made, not for the purpose of obtaining documents to be introduced into evidence, but for the purpose of conducting depositions and seeking additional materials which might be of probative value. Here, however, it is apparent that the Department already possesses and is familiar with the content of the documents for which production is sought. We are informed that production at this time is sought for the express purpose of obtaining documents, the contents of which already are known but which the Department considers to be unavailable absent Commission process because the documents come to its attention as a result of a CID. Tr. p. 5646.

To hold that documents produced to the Department pursuant to the Antitrust Civil Process Act thereafter are not reachable by the Department in federal agency proceedings would create an irrational and absurd result. The effect of such a holding would be to confer immunity in the agency forum upon a producing party with respect to those documents merely because the party was fortunate enough to have received a Civil Investigative Demand. The federal agencies' abilities to discharge their statutory obligations would be frustrated in that significant documents of probative value would be excluded from consideration by the agency and the public interest would be subverted by the Department's inability to build a complete record with respect to its position.

Although we make this decision in the context of an NRC antitrust proceeding, our reasoning will become even more apparent if we apply Applicants' argument to documents of probative value in a license proceeding relating to the safety of a nuclear plant. Applicants' contention is that documents produced to the Department pursuant to CID request thereafter would be shielded or immunized from use by the Department in NRC proceedings notwithstanding the presence in those documents of information which might disclose safety-related defects of the plant.[4] This argument is untenable. We do not believe that Congress even remotely contemplated such a result, and we would not accept this result absent an express Congressional directive forbidding production or use of the documents.

We conclude:

---

[3] These issues were set by the Board on July 25, 1974, at the commencement of the discovery period. The discovery period extended through August 1975.

[4] We recognize that the Department is not ordinarily a party to license proceedings in which safety and environmental concerns are the only issues in controversy. Nonetheless, the mere suggestion that the Antitrust Civil Process Act prevents Commission consideration of such documents illustrates in a safety context the mischief which could result if we should adopt Applicants' rationale.

(1) That the Antitrust Civil Process Act establishes no inherent barrier to the use of NRC process to obtain documents relevant in NRC proceedings;

(2) That the Department's request for these documents, though filed pursuant to a discovery request, in actuality is made for the purpose of obtaining documents for direct evidentiary use in these proceedings;

(3) That the Department is able to evaluate whether it wishes to present these documents in evidence because it already has been able to analyze their content;

(4) That there is representation of relevance by Department;

(5) That we can permit production of these documents pursuant to Rule 2.740 because, even viewing production as discovery related, it would not violate the spirit or intent of our discovery date cutoff rule.

(a) No additional burden is placed upon Applicants since no file search is necessary. The documents already are in the possession of the Department.

(b) No surprise with respect to hearing preparation can be claimed by Applicants since:

(1) We have not enlarged upon any of the issues in controversy nor the specific Statement of the Nature of Claims to be Asserted which we are using to control the introduction of evidence in these proceedings;

(2) The documents came from Applicants' own files and therefore the contents should have been known to them in any event;

(3) The Department's first notice to Applicants that it intended to utilize the CID documents in this proceeding occurred well prior to November 10, 1975, the date by which we required all parties to list documents they intended to introduce into evidence in these proceedings. Thus, Applicants were placed on timely notice that if the Department were successful in its motion to compel production, the documents would be utilized by the Department in support of its case.

In the interval since the motion to compel production first was made, the hearings have proceeded for more than two months. Issues have become refined and all parties have been made aware of the Board's intent not to permit repetitious and cumulative introduction of evidence. See Rule 2.757(b). Accordingly, the Department no longer may desire to introduce many of the documents for which production is being sought. We would discourage the introduction into evidence of documents which, while otherwise relevant, do nothing more than duplicate materials already in the record. Therefore, although we announce our intent to grant the Motion to Compel Production, we direct the Department to review documents listed on the schedules attached to that motion and to designate those documents which it presently intends to attempt to introduce into evidence. Because the Department already has had extensive

discovery and access to voluminous materials of Applicants apart from documents covered by the Civil Investigative Demand, we anticipate that a substantial reduction of the documents requested may be achieved. Upon receipt of the revised list of CID documents for which production is sought, it is our intent immediately to sign the production order. The submission of the revised list will be taken as a representation by the Department that introduction of the documents will not burden the record in cumulative and repetitious fashion and that the documents are asserted to be of significant probative value in these proceedings.

It is so ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

Ivan W. Smith, Member

John M. Frysiak, Member

Douglas V. Rigler, Chairman

Dated at Bethesda, Maryland
this 1st day of March 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-9

ATOMIC SAFETY AND LICENSING BOARD

Elizabeth S. Bowers, Chairman
Glenn O. Bright
Dr. Richard F. Cole

**In the Matter of**

**POTOMAC ELECTRIC POWER COMPANY**

**(Douglas Point Nuclear Generating Station, Units 1 and 2)**

**Docket Nos. 50-448**
**50-449**

**March 8, 1976**

Upon motion by intervenor (and cross-motion by applicant) for summary disposition of intervenor's contention concerning the methods, facilities and routes of transportation intended to be used for the disposal of radioactive wastes (or in the case of intervenor, alternately, for a deferral of the contention to the later of the two hearings proposed for the Douglas Point proceeding), the Licensing Board rules that the contention is governed by 10 CFR 51.20(g) and the appended Table S-4, and that the intervenor has not followed the requirements of 10 C.F.R. §2.758 by filing an affidavit seeking a waiver of the values in the Table or even by alleging the existence of special circumstances which might constitute grounds for a waiver.

Upon motion by intervenor that all decisions reached as a result of early hearings be conditioned to require the applicant to comply with criteria in effect at the time of construction of the facility, the Licensing Board rules that the standard invoked does not apply to issues involving environmental or radiological health and safety matters that are site-related (*Potomac Electric Power Company* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-277, NRCI-75/6 539 (June 18, 1975)), that none of the issues for which an early hearing is sought deal with matters which are not site-related, and accordingly that the motion is premature.

Intervenor's motion for summary judgment denied; applicant's cross-motion granted. Intervenor's motion to condition decisions resulting from early hearings denied as premature.

# ORDER RELATIVE TO INTERVENOR WOJCIECHOWICZ'S MOTIONS OF OCTOBER 14, 1975, AND APPLICANT'S MOTION FOR SUMMARY DISPOSITION FILED OCTOBER 22, 1975

On October 14, 1975, Counsel for Intervenor Edward J. Wojciechowicz (Intervenor) filed with the presiding Atomic Safety and Licensing Board (Board) a pleading entitled "Response of Intervenor Wojciechowicz to Applicant's Motion to Proceed With an Evidentiary Hearing on a Revised Limited Scope of Issues" (Response). Intervenor's Response, however, included two motions. Intervenor first moved for summary disposition on Intervenor's Contention 15, or in the alternative a deferral of Contention 15 to the later of the two hearings proposed for the Douglas Point proceeding. The second motion requested the Board to condition all decisions reached as a result of early hearings to require the Applicant to comply with criteria in effect at the time of construction of the facility.

On October 22, 1975, the Potomac Electric Power Company (Applicant) filed its answer to Intervenor's motions. Applicant urged that Intervenor's motions be denied, and in turn included a motion for summary disposition on Contention 15.

Intervenor's first motion concerns Contention 15.[1] That contention reads:

> Applicant has not set forth the methods, facilities, and routes of transportation it intends to use for the disposal of radioactive wastes generated by the proposed facility as required by AEC Regulatory Guide 4.2, especially 4.2–5.3.4.2 and such omission is prejudicial to Petitioner's interest and case.

In Intervenor's Response, it was stated, regarding Contention 15, that:

> As far as can be determined by Intervenor, the methods, facilities, and routes of transportation that Applicant intends to use for the disposal of radioactive wastes from the proposed facility have not been any more clearly set forth now than they were in Applicant's original environmental statement. Since the methods, facilities, and transportation routes that Applicant might employ have tremendous significance on the suitability of the Douglas Point site for the location of the proposed facility, and since it is impossible for this Intervenor to look more closely into the particulars thereof until Applicant's proposals are known, it is believed that Applicant should set forth as clearly as possible the particulars of waste disposal from Douglas Point before a schedule is set up for evidentiary hearings thereon. At this stage in the proceedings, it is not enough for Applicant to say merely that it will be sure to comply with NRC regulations! It is hoped that this is

[1] Wojciechowicz Contention 15 was admitted by order of the Board on March 25, 1974.

true with respect to all contentions. The fact *is that the extent of Applicant's compliance with the NRC criteria, and the alternatives available to Applicant for compliance that would have less environmental impact cannot be properly evaluated* until Applicant's proposals are known. [(Emphasis added) (Response, p. 3)]

In short, Intervenor contends that the requested information is necessary so that he can independently assess the extent of, and presumably litigate, the environmental impacts of transportation of radioactive wastes from the proposed Douglas Point facility.

On January 6, 1975, the Atomic Energy Commission[2] published regulations, which became effective February 5, 1975 (10 CFR 51.20(g)), authorizing Applicants in their environmental reports, and the Commission's Staff in its detailed environmental impact statements, to account for the environmental effects of transportation of fuel and waste by using data in an appended Summary Table (Table S-4). 40 *F. R.* 1005. Specifically, Table S-4 sets forth numerical values for the environmental effects of transportation of spent fuel and radioactive waste to and from one light-water cooled nuclear reactor under both normal and accident conditions.

The environmental impact of the transportation of fuel and wastes to and from the proposed Douglas Point facility clearly are governed by the values set forth in Table S-4. 10 CFR 51.20(g). And, as provided for in 10 CFR 2.758(b) absent a waiver of or an exception to the rule, these values are binding in the proceeding.

To the Board's knowledge, the requirements of 10 CFR 2.758 have not been followed by Intervenor. That is, no petition for waiver of the values specified in Table S-4, with its necessary accompanying affidavit, has been filed. Moreover, to the Board's knowledge, Intervenor has not even alleged, in any fashion, the existence of "special circumstances" which might constitute grounds for waiver of the applicable rule. The Board, therefore, believes that this contention is not a proper issue for consideration in this proceeding. Accordingly, following 10 CFR 2.749(d), the Board hereby grants Applicant's motion for summary disposition of Intervenor's Contention 15. Intervenor Wojciechowicz's motion is denied.

Intervenor also expressed a concern that holding early hearings, as requested by Applicant, could lead to a result whereby "... outdated technology might be 'locked in' in view of the great time lapse between the hearings and the construction." (Response, p.4). Intervenor contends that the Appeal Board has explicitly recognized this possibility, and therefore Intervenor moves this Board to:

---

[2] In accordance with the Energy Reorganization Act of 1974, 83 Stat. 1233, the Atomic Energy Commission has been abolished and its regulatory responsibilities have been assumed by the Nuclear Regulatory Commission.

> . . . specifically condition all decisions to be reached on the basis of evidentiary hearings that are to be scheduled now that Applicant will be required to comply with the criteria in effect at the *time of construction* absent some positive showing by Applicant—with full scrutiny of the showing by the Board and the Intervenors—that such is impossible. [Response, p. 4].

Intervenor's assertion regarding the Appeal Board's concern is correct as far as it goes. However, Intervenor chose to ignore the fact that the Appeal Board clearly limited its concern in this regard to issues "which do not focus upon the suitability of the Douglas Point site from a reactor-safety or an environmental standpoint". *Potomac Electric Power Company* (Douglas Point Nuclear Generating Station, Units 1 and 2) ALAB-277, NRCI-75/6 539, 553-554 (June 18, 1975). None of the issues on which Applicant has moved for early hearing deal with matters—either environmental or radiological health and safety—which are not site-related. Therefore Intervenor's motion for this condition is premature, and is hereby denied.

It is so ORDERED.

THE ATOMIC SAFETY AND LICENSING BOARD

Elizabeth S. Bowers
Chairman

Dated at Bethesda, Maryland
this 8th day of March, 1976.

UNITED STATES OF AMERICA LBP-76-10
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Thomas W. Reilly, Chairman
Dr. Frederick P. Cowan, Member
Dr. Hugh C. Paxton, Member

In the Matter of Docket Nos. 50-259
50-260
TENNESSEE VALLEY AUTHORITY
March 11, 1976
(Browns Ferry Nuclear Plant,
Units 1 and 2)

Upon timely petition for leave to intervene and request for a hearing in proceeding to consider proposed operating license amendments, Licensing Board rules that (1) it will consider all of petitioner's supplementary pleadings in spite of the untimeliness of certain of them; (2) the hearings of the Joint Committee on Atomic Energy on reactor safety do not relate specifically to the proposed license amendments and therefore do not provide a valid basis for delaying the Board's decision on petitioner's request for a hearing; (3) petitioner's residence 65 miles from the site, together with other activities closer to the site in which he and his family engage, establish a sufficiently localized interest to meet the intervention requirements of 10 C.F.R. §2.714; (4) petitioner has shown a sufficient connection between his interest and the proposed license amendments; (5) petitioner has advanced at least one adequate contention or litigable issue susceptible of factual determination at an evidentiary hearing; and (6) in view of the nationwide interest in resolution of the Browns Ferry fire incident, granting the hearing request is in the public interest and consistent with Commission policy.

Motion to postpone Board action denied. Intervention petition granted.

**RULES OF PRACTICE: CONTENTION REQUIREMENT FOR INTERVENTION**

A petitioner who meets other intervention requirements need state only one adequate contention to entitle it to intervene in Commission licensing proceedings.

**RULES OF PRACTICE: CONTENTION REQUIREMENT FOR INTERVENTION**

A licensing board is under no obligation to affirmatively "create" contentions for a petitioner or to transform patently bad contentions into acceptable contentions. *Commonwealth Edison Co.* (Zion Station), ALAB-226, 8 AEC 381, 406 (1974). However, where an issue, clearly open to factual adjudication, can be discerned somewhere within the four corners of submitted pleadings, a licensing board is not free to disregard it.

**RULES OF PRACTICE: INTERVENTION PETITION (AFFIDAVIT)**

Documents incorporated by reference in their entirety by an intervention petitioner in a supporting affidavit will not be considered by a licensing board since their incorporation frustrates the particularity requirements of 10 C.F.R. §2.714.

## RULING ON PETITION TO INTERVENE

On October 7, 1975, the Nuclear Regulatory Commission (NRC) published in the *Federal Register* (40 *Fed. Reg.* 46365) a notice of "Proposed Issuance of Amendments to Facility Operating Licenses," which had been issued to the Tennessee Valley Authority ("TVA" or the "licensee") for the operation of the Browns Ferry Nuclear Plant, Units 1 and 2, located in Limestone County, Alabama.

The proposed amendments to the TVA operating license relate to: (1) modification and reinstatement of certain technical specifications authorizing operation of the plant following the March 22, 1975 fire; (2) revision of technical specifications to permit the use of General Electric Thermal Analysis Basis (GETAB) and modified operating limits based upon an evaluation of ECCS performance in accordance with 10 CFR §50.46; (3) modification of various limits in accordance with the Commission's Interim Acceptance Criteria and termination of certain restrictions by the Commission's December 27, 1974 Order for Modification of License and imposition of limitations established in accordance with 10 CFR §50.46; (4) revision of technical specifications to modify the flow biased APRM neutron flux scram and rod block set points; and (5) revision of technical specifications relating to temperature limits for the pressure suppression pool water.

The Commission's notice provided an opportunity for any person whose interest might be affected to petition to intervene and to request a hearing, requiring that, pursuant to 10 CFR §2.714, the petition to intervene must set forth: (1) the interest of the petitioner in the proceeding, (2) how that interest may be affected by the results of the proceeding, and (3) the petitioner's contentions with respect to the proposed licensing action.

Pursuant to delegation by the Commission, on November 11, 1975 the Acting Chairman of the Atomic Safety and Licensing Board Panel established this Atomic Safety and Licensing Board (the Board or petitions board) to rule on petitions and/or requests for leave to intervene in this proceeding.

On November 6, 1975, Mr. William E. Garner of Scottsboro, Alabama, an attorney, filed a timely Petition For Leave To Intervene And Demand For Hearing.

Mr. Garner (the Petitioner) has had an unusually long period of time in which to refine his petition—from November 6, 1975 to January 29, 1976—some 12 weeks.[1] Furthermore, the Petitioner has filed a total of five pleadings, or attempted pleadings, directed to the substance of his contentions and the basis therefor, with three of those pleadings not specifically authorized by the Commission's Rules of Practice nor orders of this Board:

1. The original Petition For Leave To Intervene And Demand For Hearing—November 6, 1975.

2. Petitioner's Response To Licensee's Answer To Petition—November 23, 1975.

3. Perfected Petition For Leave To Intervene—January 29, 1976.

4. Motion For Permission To Add Further Bases To Perfected Petition And Proposed Further Bases—February 11, 1976.

5. Letter response to answers of NRC Staff and Applicant—February 17, 1976.

The Petitioner incorporated by reference in his Perfected Petition each of his earlier pleadings. Items 2, 4 and 5 listed above are not authorized by the Commission's Rules of Practice nor, thus far, by orders of the Board. The NRC Staff concedes that the Board, in its discretion, could choose to receive the February 17 letter and give it "appropriate consideration," and, by addressing the merits of Petitioner's February 11 Motion For Permission To Add Further Bases, the Staff seems to concede that this, also, can be considered by the Board. The Licensee (TVA) opposes our considering any such unauthorized pleadings or attempts to add to earlier pleadings.

The Board dislikes the gratuitous filing of unauthorized pleadings *extra* the Rules of Practice, particularly where, as here, more than adequate time has been already granted to file first a regular Petition To Intervene and much later, after

[1] Since November 6, the original deadline for filing a petition for hearing, there have been four extensions of time. The first was granted to the NRC Staff by the Board's Order of November 25. The second resulted from use of an incorrect service list, so that the Board was not served the Staff's answer until December 17. The third was the Board's Order of December 24 which, at the Staff's suggestion, granted the Petitioner 30 more days to perfect his petition. The fourth extension was the Board's Order of January 15, 1976, granting Petitioner's request for an additional five days, thus extending the deadline to January 29, 1976.

several time extensions, a Perfected Petition To Intervene. We note that the original deadline was November 6, 1975 and the extended deadline for the Perfected Petition was January 29, 1976. Yet two of the above-listed "pleadings" came two weeks or more *after* the extended deadline of January 29. Such conduct by an attorney is less understandable in this case because NRC records show that the Petitioner, though acting *pro se,* has been actively involved in several past NRC and AEC license proceedings going back many years. However, the Board has chosen, in its discretion, to consider all the filed documents in pressing its search for answers to the questions of "interest," admissibility of contentions and basis therefor.

## MOTION TO POSTPONE BOARD ACTION UNTIL AFTER JCAE HEARINGS

The Petitioner's February 11 Motion . . . To Add Further Bases also includes a request to postpone Board action on Mr. Garner's Petition To Intervene until after the Joint Committee on Atomic Energy (JCAE) hearings "are held and the findings made available to the Board and all parties." Petitioner asserts that on February 2, 1976, three GE employees involved in nuclear power plant work resigned and were "all of the opinion that it would be unsafe to operate the Browns Ferry plant." Paragraph 5 alleges that Robert D. Pollard, a project manager for NRC, resigned "because of his concern about the safety of the nuclear power plants" and "the inability of the Nuclear Regulatory Commission to regulate licensees."

These general allegations are unrelated to the proposed amendments to the Browns Ferry licenses and are merely statements concerning the NRC and GE resignations and recitals of general opinions[2] about the safety of nuclear power plants. They fail to provide the necessary specificity and factual bases for contentions as required by the Notice in this proceeding and §2.714 of the Rules of Practice.

The fact that the JCAE will hear (or has heard) statements from the named individuals provides no valid basis for delaying our decision on Petitioner's request for a hearing. The Board is offered no factual connection between the past or expected testimony of these individuals and Petitioner's specific contentions. The Commission has stated that "[a]s a general rule it is the

[2] The Appeal Board has stated concerning such general views:
If facts pertaining to the licensing of a particular nuclear power plant are at issue, an adjudicatory proceeding is the right forum. But if someone wants to advance generalizations regarding his particular views of what applicable policies ought to be a role other than as a party to a trial-type hearing should be chosen. [*Duke Power Company* (William B. McGuire Nuclear Station, Units 1 and 2) ALAB-128, 6 AEC 399, 401 (1973).]

practice of the Commission to pursue its administrative procedures while other state and local proceedings are under way. Such a practice is . . . the efficient, economical and expeditious course." *Wisconsin Electric Power Company, et al.* (Koshkonong Nuclear Plant, Units 1 and 2) CLI-74-45, 8 AEC 928, 930 (1974). *Cf. Consumers Power Company* (Midland Plant, Units 1 and 2) CLI-74-7, 7 AEC 147, 148 (1974). The JCAE hearing concerns nuclear safety in general as distinguished from NRC licensing proceedings relating to specific plants, licenses, permits or amendments and modifications thereto. Accordingly, Petitioner's request to delay a Board decision on his petition is DENIED.

## INTEREST

The NRC Staff's responses to Mr. Garner's pleadings took the position that he had met the requirements of the Commission's notice and §2.714 to the extent of establishing a valid interest in the proceeding, but that he had failed to adequately show how that interest may be affected by the proceeding.[3] TVA's position is that none of Petitioner's pleadings show any interest which may be affected by the results of this proceeding; that his residence 65 miles from the site "is so remote as to be beyond the zone of interests protected by the Atomic Energy Act;" that "mere travel from time to time in the vicinity of the site does not show the substantial interest required;" and that Petitioner's interests in the City of Huntsville, the Decatur Airport and the Redstone Arsenal are no more than the same general interest "held by all citizens, and are not sufficiently personal to the Petitioner to create the requisite interest."[4]

The Board is aware of the Appeal Board's earlier guidance that admissible petitions should identify an interested person as one "who lives or conducts substantial activities in reasonable proximity to the facility site and whose interest may be affected by the proceeding;"[5] and that "a board should take equal care in these cases to assure itself that potential intervenors do have a real stake in the proceeding."[6] The Board has also taken into consideration the test

---

[3] Staff responses of 2/11/76, at 2, and 2/25/76 at 3. See also Staff response of 11/26/75, at 5:

> Stated differently, Petitioner has failed to provide a reasonable nexus between the interest asserted and the results of the Commission taking action on the proposed amendments.

[4] Licensee's answer of 11/18/75, at 3; Licensee's response to perfected petition, 2/10/76, at 3, 5-9.

[5] *Duquesne Light Co.* (Beaver Valley Power Sta.), ALAB-109, 6 AEC 243, 244 n.2 (Apr. 2, 1973).

[6] *Cincinnati Gas & Elec. Co.* (Zimmer Nuclear Sta.), ALAB-305, NRCI-76/1, at 12 (Jan. 7, 1976).

approved by the Appeal Board in the *Pebble Springs* case[7] in searching for elements necessary for requisite interest; *viz.*, a showing that:

> . . . (1) the entry of an order in the particular proceeding would cause actual injury to the person or group representing intervention, and (2) such injury is arguably within the scope of interests to be protected by the statutes governing the particular proceeding.

Mr. Garner's assertions regarding "interest" appear in three documents: his original Petition For Leave To Intervene (11/3/75), the Petitioner's Response to Licensee's Answer (11/23/75), and his letter of February 17, 1976 "in response to the answers of the NRC Staff and the Applicant to my Perfected Petition." Briefly summarized, the interest assertions are:

1. He and his family reside and own property in Scottsboro, Jackson County, Alabama (Jackson County is some 25 miles from Limestone County, wherein the plant is located. Mr. Garner's residence is about 65 miles from the plant site.)

2. He and his family also own other property in the western part of Jackson County, closer to the plant site, and in Lauderdale County, which is directly adjacent to Limestone County.

3. He and his family use the shopping, commercial, medical and social facilities of Huntsville, Alabama, only 35 miles from the plant site.

4. He is a practicing attorney and a member of the bar of the U. S. District Court for the Northern District of Alabama, which sits in Florence (40 miles from the site), Huntsville (35 miles from the site), and Decatur (10 miles from the site).

5. He finds it necessary, from time to time, to travel in the immediate vicinity of the site.

6. He finds it necessary from time to time, to use U. S. Highway 72 and Alabama Highway 20, both of which pass within a few miles of the plant.

7. The plant is located on Wheeler Lake, wherein he and his family "still have a right to fish." (The Board takes this to be an allegation that he and his family have fished there before, and intend to do so in the future.)

8. Mr. Garner and his family utilize Huntsville–Decatur Airport, less than 30 miles from the plant.

9. "As a citizen of the United States, Petitioner has an interest in the safe preservation and operation of the Army Missile Command and the National Aeronautics and Space Agency," located at Redstone Arsenal, also less than 30 miles away.

10. Petitioner and his family are consumers of electricity produced by TVA.

11. There appears to be no agency of the State of Alabama, nor any person,

---

[7] *Portland Gen. Elec. Co.* (Pebble Springs Nuclear Plant), ALAB-273, NRCI-75/5, 492, 494 (May 28, 1975).

firm or corporation who will intervene to represent or protect the interest of Petitioner and his family in this proceeding.

Although there are some alleged bases of interest enumerated above which, taken alone, the Board might find to be inadequate bases for intervention (e.g., items 9, 10 and 11) and others that appear questionable (e.g., possibly items 5 and 6), the Board finds that, taken together, the Petitioner appears to have established a sufficiently localized interest to meet the intervention requirements of §2.714. We are not saying that a residence distance of 65 miles from the plant site is in any way automatically "qualifying" in all cases, but only that considering all the circumstances and factual connections with the plant site and its operation, we believe a sufficient interest has been shown within the meaning of the Commission's Rules of Practice and within the intended ambit of protection of the Atomic Energy Act.[8]

With regard to the "nexus between the interest asserted and the proposed modifications," which the NRC Staff argues is lacking, the Board finds that, contrary to the Staff assertion, Mr. Garner's contentions do, in effect, allege that the modifications proposed are *in*adequate, and that re-starting the two nuclear units with the proposed modifications would endanger the public health and safety. (*Cf.* NRC Staff argument in NRC Staff Response of 2/11/76, at 4.) That is the only fair reading that can be given to Contention 12(a) through (m) of Mr. Garner's Perfected Petition (1/29/76), i.e., that unless the NRC requires the *additional* modifications proposed by Mr. Garner, operation with those modifications presently proposed will be unsafe. See also Contentions 16, 17, 18, 20 and 28 of the original Petition (incorporated in the Perfected Petition by reference), wherein Mr. Garner contends that:

> 16. (T)he contemplated action by the NRC (approving the modifications and approving operation with the modifications) will be inimical to the health and safety of the public.
>
> 17. (T)he Applicant is not technically qualified to comply with the proposed modifications of the amendments to the facility operating licenses.
>
> 18. (T)he Applicant is not technically qualified to operate the plant under the proposed technical specifications.
>
> 20. TVA is not technically qualified to satisfactorily complete the work required to restore the plant following the March 22, 1975 (fire).
>
> 28. (A)s presently structured, organized, constituted and staffed, the licensee cannot operate the plant without endangering the interests, health and safety of the public.

[8] Frankly, we do not envision any potential adverse consequences on Petitioner or his family from any normal or routine operations at the plant, or even from any reasonably anticipatable safety-related occurrences or accidents. It is only from the so-called "catastrophic accident" that Petitioner or his family might possibly experience some adverse effect, in view of the geographical relationships alleged.

## PETITIONER'S INCORPORATION BY REFERENCE

Petitioner has incorporated by reference in his supporting affidavit his Perfected Petition, which in turn incorporates by reference the following documents:

"Petition for Leave to Intervene and Demand for Hearing," dated November 6, 1975;

"NRC Staff Response to William E. Garner's Petition to Intervene," dated November 28, 1975;

"Petitioner's Response to Licensee's Answer to Petition for Leave to Intervene and Demand for Hearing of William E. Garner," dated November 23, 1975;

"Browns Ferry Nuclear Plant Fire Hearings Before the Joint Committee on Atomic Energy Congress of the United States Ninety-Fourth Congress, First Session, September 16, 1975, Part I" [1,194 pages];[9]

"Plan for Evaluation, Repair And Return To Service Of Browns Ferry Units 1 and 2 (March 22, 1975, Fire)" [1,800 pages].[10]

The Board specifically rejects the last two listed documents as not being any legitimate part of the "pleadings" which this Board must review to determine the admissibility of the Petition To Intervene. The Petitioner has incorporated by reference in his supporting affidavit about 3,000 pages of material including newspaper articles, magazine articles, opinions, and public statements by a large number of people about the Browns Ferry Fire, without any attempt to direct specific attention to pertinent portions particularly germane to the issues in this proceeding. Such non-selective incorporation works to frustrate the requirement in §2.714 that the supporting affidavit set forth "with particularity the facts pertaining to his interest and the basis for his contentions with regard to each aspect on which he desires to intervene."

Such documents, or specific portions thereof, would be more appropriate as evidentiary exhibits at a hearing, subject, of course, to the usual objections to admissibility, a showing of relevance and materiality, etc. On their face, they are not "contentions" nor do they shed any light on the basis or validity of other specific contentions already expressed elsewhere in Petitioner's multiple pleadings.[11]

---

[9] The hearings before the Joint Committee on Atomic Energy encompass statements by various members of Congress, officials from TVA, NRC and the State of Alabama, with assorted appendices, yielding a transcript of 1,194 pages.

[10] The plan for evaluation and repair of Browns Ferry after the fire contains over 1,800 pages of text, diagrams, figures and tables relating to the repair and prospective return to service of the Browns Ferry Nuclear Plant.

[11] See, e.g., *Alabama Power Co.* (Barton Nuclear Plant), LBP-75-32, NRCI-75/6, 612, at 615:

> (S)uch a wholesale incorporation by reference does not serve the purposes of a pleading and would ordinarily require that both petitions be denied . . . for failure to comply with Section 2.714.

## EXISTENCE OF A LITIGABLE CONTENTION

The NRC Staff has taken the position that Mr. Garner's Petition(s) fail to show how his interest may be affected by the results of this proceeding and fail to state a proper basis for his contentions.[12] The Staff is of the opinion that the Perfected Petition fails to correct the defects of the original petition and, therefore, intervention should be denied, arguing that the most conspicuous defect in the new petition is the failure to demonstrate a reasonable nexus between the interest asserted and the modifications proposed.[13]

TVA argues that the contentions in the November 6 Petition and the January 29 Perfected Petition "simply have no relationship to the proposed amendments to the operating licenses" and that Petitioner has not "provided any indication of how the assertions relate to the proposed amendments." The Licensee also argues that the supporting affidavit fails to provide the factual basis for the contentions. TVA submits, therefore, that Mr. Garner's Petition should be denied for failure to state the contentions with particularity, for failure to relate them to the proposed license amendments, and for failure of the supporting affidavit to provide factual basis for the contentions.[14]

TVA also points out that where the Petitioner is an attorney a high standard of precision and clarity may be required, especially where the Petitioner is no neophyte but has had extensive experience in Commission proceedings.[15] The

---

[12] See p. 2 of NRC Staff Response of 2/11/76 and p. 5 of the NRC Staff Response of 11/26/75:

> With respect to contentions, the petition contains a number of unsupported accusations about general lack of good faith and competence on the part of TVA and NRC, paragraphs 11, 12, 13, 22 and 27, which have no relationship to any of the actions covered by the Notice, except that paragraphs 12 and 13 contain some allegations concerning the Browns Ferry fire. The rest of paragraphs 15-28 simply contain a list of ultimate conclusions without basis and without any indication of how such assertions relate to any of the actions covered by the Notice. Paragraph 14 simply refers to bases to be found in records of NRC and Oak Ridge National Laboratory, for support.

[13] As to the Perfected Petition, the Staff points out that in paragraphs 12(a)–(m), Mr. Garner has merely listed various things which he contends should be done prior to allowing the restarting of the Browns Ferry plant; that such assertions are merely suggested improvements and do not address the fundamental legal issue, i.e., whether there is reasonable assurance that operation of the units in accordance with the proposed amendments will not endanger public health and safety; that his petitions provide nothing other than "repeated vague assertions as to TVA's incompetence." [NRC Staff Response to Perfected Petition, Feb. 11, 1976, at 2-3.]

[14] Licensee's Response to Perfected Petition, Feb. 10, 1976, at 10-13.

[15] *Public Serv. Gas & Elec. Co.* (Salem Sta.), ALAB-136, 6 AEC 487, 489 (1973); *Kansas Gas & Elec. Co.* (Wolf Creek Sta.), ALAB-279, NRCI-75/6, 559, 576-577 (June 30, 1975).

Petitioner here is an attorney who has actively participated in several other AEC and NRC license proceedings, including TVA's Bellefonte Nuclear Plant, the proposed Hartsville Nuclear Plant, as well as in both Farley proceedings (construction permit proceeding and operating license proceeding) involving the Alabama Power Company. The Rules of Practice for license proceedings are substantially the same under NRC as they were under the AEC. Thus the Petitioner is hardly a novice in these proceedings, and should be quite familiar with the Commission's Rules of Practice and the basic requirements for petitions to intervene.

As urged by TVA's counsel, this petition board has seriously considered the Appeal Board's recent guidance in *Zimmer*:

> [O]ur admonition in *River Bend* bears repeating here. "In an operating license proceeding, unlike a construction permit proceeding, a hearing is not mandatory . . . . There is, accordingly, especially strong reason in an operating license proceeding why, before granting an intervention petition and thus triggering a hearing, a licensing board should take the utmost care to satisfy itself fully that there is at least one contention advanced in the petition which, on its face, raises an issue clearly open to adjudication in the proceeding." [*Cincinnati Gas & Elec. Co.* (Zimmer Sta.), ALAB-305, NRCI-76/1, 12 (Jan. 7, 1976).]

> We have also taken into account the message of *Wolf Creek* that:
> The Commission insists that a prospective intervenor articulate the basis of his interest clearly and, moreover, specify the focus of the desired hearing with particularity before he is entitled to be admitted to the proceeding; the right to require such specificity is now authoritatively settled. *BPI* v. *Atomic Energy Commission,* 502 F 2d 424 (D. C. Cir. 1974). . . . The purpose of the regulation (10 CFR 2.714(a)) is to "establish that there is an 'issue' to be presented (by the intervenor) and determined (by a licensing board) in the proceeding." [*Kansas Gas & Elec. Co.* (Wolf Creek Gen. Sta.), ALAB-279, NRCI-75/6, 559, 574 (June 30, 1975).]

The Commission's *Federal Register* notice of October 7, 1975 contains the statement:

> The amendments would modify . . . and would reinstate the Technical Specifications authorizing operation of Browns Ferry Nuclear Plant . . . upon satisfactory completion of the work required to restore the plant following the March 22, 1975 fire.

Thus the action proposed includes permission to TVA to operate the plant with modified specifications. Mr. Garner's wide-ranging pleadings seem to attack every aspect of the licensing and operation of the Browns Ferry plant, as well as the competency and compliance-disposition of TVA's management in general (not just limited to the Browns Ferry plant). Some of his charges might be

related to the proposed modifications and amendments to the Technical Specifications, but most clearly are not.

The pleadings contain the rhetoric and tone of a general anti-TVA diatribe[16] rather than the pleading of a lawyer, but stripped down to the basic legal issues with which we must deal, they seem to charge as follows:

(1) That the proposed action will be inimical to public health and safety;

(2) That TVA is not competent to make the required modifications;

(3) That TVA is not competent to comply with the proposed Technical Specifications;

(4) That various additional changes in Technical Specifications (directly related to fire prevention) must be made before the plant can be operated safely (an obvious implication that those changes and modifications proposed would be inadequate for safe operation).

The alleged factual support for those charges seems to be, in essence, as follows:

(1) That TVA has been guilty of a number of violations of NRC requirements and has experienced an unusually large number of "safety-related occurrences" at the Browns Ferry plant (his Appendix "A" lists 114);

(2) That a top NRC official (Mr. Ben Rusche) has publicly stated that TVA has had "construction anomalies" in building Browns Ferry and did not adhere to the original AEC construction requirements ("It was not built according to the design we approved"), with the obvious implication that it is unrealistic to expect that future NRC requirements or approved modifications will be adhered to.

(3) That civil penalties have been ineffective and should not be expected to be effective in the future.

(4) The facts surrounding the location and origin of the March 22, 1975 fire allegedly point to the factual need for additional modifications beyond those now submitted by TVA for NRC approval.

---

[16] In the original Petition (11/3/75), among other things, TVA is accused of being "incorrigible," "drunk with power," and of "marching on, over or around other agencies" and the law. The Petitioner's Response To Licensee's Answer (11/22/75) complains of "an incestuous relationship" between TVA and the old Atomic Energy Commission. The Perfected Petition (1/29/76) contains broad allegations concerning the "involvement of the Tennessee Valley Authority with the atomic-military-industrial complex in the development of atomic bombs" and the alleged push "to keep atomic socialism alive and the nuclear welfare state going," calls Browns Ferry the "white elephant of the atomic industry," refers to the March 22 Browns Ferry fire as an "atomic disaster," alleges general incompetence and incorrigibility of TVA personnel, and points to a suspicious number of "versions" of the Browns Ferry fire. The Motion to Add Further Bases (2/11/76) refers to TVA as being "arrogant, ignorant and lawless." The original petition claims NRC is "incapable of regulating" TVA.

In analyzing the Petition(s) in light of the above elements, and disregarding the intemperate tone and general anti-TVA tirade, we find that there is the framework of at least one valid contention, notwithstanding the protestations of both TVA and Staff, as required to grant intervention within the guidance of the *Prairie Island/Grand Gulf* doctrine.[17] The Board stresses, as did the Appeal Board in *Prairie Island*,[18] that all we decide now is that there does exist within the borders of Mr. Garner's multiple pleadings one contention adequate to entitle him to intervene. It remains for him to establish, to the satisfaction of the Board which will be convened to conduct the hearing, that a genuine issue actually exists. If that Board is not then satisfied, it may summarily dispose of the contention on the basis of the pleadings. 10 CFR §2.749.

More specifically, the Board finds that within the scope of paragraph number 12 (a through i)[19] of Petitioner's January 29 Perfected Petition (with its Appendix "A" attached), when considered with the allegations contained in paragraph 6 of his February 11 Motion For Permission To Add Further Bases and paragraphs 16–21 of the original November 3 Petition To Intervene, that all these charges taken together seem to generate a litigable contention that could more briefly be stated as follows:

> In view of TVA's allegedly poor past operating experience, its history of alleged violation of NRC requirements and safety-related occurrences, and in view of the public statement of a top NRC official that TVA did not follow the originally-approved AEC design requirements, coupled with alleged ineffectiveness of the NRC civil penalty and surveillance program, it is contended that the presently proposed modifications will be inadequate to protect the public health and safety, and additional modifications (para. 12a through i of Perfected Petition) are necessary. Furthermore, the sufficiency of NRC's inspection and surveillance program, as it relates to Browns Ferry and TVA's compliance with Technical Specifications has been poor in the past and should be evaluated by the NRC Staff and found to be satisfactory before allowing operations to resume. Furthermore, the technical qualifications and competency of TVA personnel to comply with the proposed modifications and to satisfactorily complete the work required to restore the plant should be established on the record before allowing the resumption of operations.

---

[17] *Northern States Power Co.* (Prairie Island Plant), ALAB-107, 6 AEC 188, 194 (1973); *Mississippi Power & Light Co.* (Grand Gulf Nuclear Sta.), ALAB-130, 6 AEC 423, 424. See also *Duquesne Light Co.* (Beaver Valley Sta.), ALAB-109, 6 AEC 243, 245; and *Louisiana Power & Light Co.* (Waterford Sta.), ALAB-125, 6 AEC 371, 372.

[18] *Northern States Power Co.* (Prairie Island), *supra*, at 194.

[19] The Board finds items (j) through (m) of Petitioner's paragraph 12 to be inappropriate as contentions in this proceeding. They go beyond the scope of the modifications, amendments and revisions proposed, and (k), (l) and (m) are outside the Commission's jurisdiction.

As now interpreted by the Board and expressed above, we find the Petition to contain "at least one adequate contention" or litigable issue susceptible of factual determination at an evidentiary hearing. In interpreting the Petitioner's multiple pleadings in a way that results in the litigable contention stated above, we do not imply that such contention is yet as narrow or specific as it should be before embarking on an evidentiary hearing, but further narrowing, simplification, clarification and specification can be the result of later prehearing conferences with the parties, as well as cooperative conferences between all counsel. See 10 CFR §§2.751a and 2.752. At this point, we are resolving only the question of whether, somewhere within the four corners of Petitioner's submitted pleadings, there does, in fact, exist the germ of at least one valid, marginally adequate contention, which identifies the specific aspect as to which Petitioner wishes to intervene, and which sets forth, with sufficient particularity, the factual basis for that contention, as required by §2.714 of the Commission's Rules of Practice.

It is true that the Board is under no obligation to affirmatively "create" contentions for Petitioners or to transform patently bad contentions into acceptable contentions. *Commonwealth Edison Co.* (Zion Sta.), ALAB-226, 8 AEC 381, 406 (1974). However, we believe that where an issue, clearly open to factual adjudication, can be discerned somewhere within the four corners of the submitted pleadings, the Board is not free to disregard it.

TVA argues[20] that granting a hearing on this Petition would be "contrary to national interest." But considering all the circumstances—the nationwide interest in the resolution of the Browns Ferry fire incident, the corrective modifications proposed, and the serious nature of Petitioner's allegations—the contrary appears to be true, i.e., the granting of a hearing in this case would seem to be clearly in the public interest and consistent with the Commission's often-expressed policy of resolving factual questions relating to licensed facilities on an open, public record.[21]

We are not saying there is any warrant for reopening for full reconsideration the entire spectrum of environmental and health and safety matters normally considered at construction permit or operating license proceedings. We, likewise, reject Petitioner's argument that "everything having to do with the Browns

[20] TVA argues that to grant a hearing on this petition would delay the operation of the Browns Ferry plant and needlessly tie up TVA manpower that could otherwise be achieving prompt operation of the plant. This would also delay getting this vital capacity into production and detract from the national policy of achieving energy independence. Licensee's Answer to Petition to Intervene, 11/18/75, at 9.

[21] *Cf.* also the Appeal Board's views expressed in *Gulf States Utilities Co.* (River Bend Sta.), ALAB-183, 7 AEC 222, 227-228 (March 12, 1974).

Ferry Plant has been put in issue."[22] The scope-limiting factor for the admitted issue is the scope of the pending application itself, i.e., to what extent will past operating experience and past surveillance procedures, as amended by planned future changes in both, yield the necessary assurance that the public health and safety will not be adversely affected by approving the proposed amendments and modifications, and are TVA's personnel technically competent, qualified and willing to put into effect the changes in strict accordance with NRC requirements and approvals granted. Finally, there is the question of whether the modifications proposed are adequate to protect the public health and safety.

Mr. Garner's Petition To Intervene is *GRANTED.* Since a public, evidentiary hearing is now necessary, a Notice of Hearing is appended to this Order as Attachment A. [Attachment A is omitted from this publication but is available at the NRC's Public Document Room, Washington, D. C.]

Pursuant to §2.714a of the Commission's Rules of Practice, the foregoing ruling of the Petitions Board is appealable to the Atomic Safety and Licensing Appeal Board within five (5) days after service of this Order, notwithstanding the provisions of §2.730(f). For requirements and manner of filing the appeal, see 10 CFR §2.714a.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD
(Petitions Board)

Thomas W. Reilly, Chairman

Issued at Bethesda, Maryland
this 11th day of March, 1976.

(Attachment A is omitted from this publication but is available at the NRC's Public Document Room, Washington, D. C.)

[22] Garner letter dated February 17, 1976. But see Commission's *Federal Register* notice of October 7, 1975, wherein it is stated:

> . . . any person whose interest may be affected by this proceeding may file a request for a hearing . . . *with respect to the issuance of the amendments* to the subject facility operating licenses. [40 *Fed. Reg.* 46365 at 46366.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-11

ATOMIC SAFETY AND LICENSING BOARD

Douglas V. Rigler, Chairman
Ivan W. Smith, Member
John M. Frysiak, Member

In the Matter of

| | |
|---|---|
| THE TOLEDO EDISON COMPANY and<br>THE CLEVELAND ELECTRIC<br>ILLUMINATING COMPANY | Docket Nos. 50-346A<br>50-500A<br>50-501A |
| (Davis-Besse Nuclear Power Station,<br>Units 1, 2, and 3) | |
| THE CLEVELAND ELECTRIC<br>ILLUMINATING COMPANY, ET AL. | Docket Nos. 50-440A<br>50-441A |
| (Perry Nuclear Power Plant,<br>Units 1 and 2) | March 19, 1976 |

Upon motion in antitrust proceeding by the City of Cleveland, an intervenor, to disqualify for conflict of interest reasons the law firm representing the applicant, the Licensing Board, following its earlier order of suspension and disqualification of the firm, its referral of the charges to a special board convened pursuant to .10 CFR 2.713(c), and the dismissal of those charges by the special board, rejects the recommendations of the special board, determines that the firm should be suspended from further participation in the proceeding and certifies four questions to the Appeal Board.

Motion granted. Order stayed pending Appeal Board determination of the certified questions.

RULES OF PRACTICE: DISQUALIFICATION

Because disqualification involves separable and final adjudication of rights independent of the cause of action itself, interlocutory appellate consideration of such matters is appropriate. (*Cohen* v. *Beneficial Industrial Loan Corp.*, 337 U.S. 541 (1949).)

RULES OF PRACTICE: DISQUALIFICATION

Final authority with respect to the suspension and disqualification of an attorney pursuant to 10 CFR 2.713(c) rests with the original licensing board, notwithstanding an adverse recommendation of a special board convened in accordance with that subsection.

RULES OF PRACTICE: DISQUALIFICATION

Although a licensing board which undertakes suspension action pursuant to 10 CFR 2.713(c) has final authority, it should give great deference to the decision of a special board convened to hear the charges.

RULES OF PRACTICE: CERTIFICATION

Certification is appropriate where a licensing board in a disqualification contest does not accept the conclusions of a special board convened pursuant to 10 CFR 2.713(c); even when the boards agree, certification may nevertheless be warranted in almost every instance, because of the finality and collateral nature of the determination.

RULES OF PRACTICE: DISQUALIFICATION

Parties are not permitted to introduce additional evidence in a proceeding before a special board convened pursuant to 10 CFR 2.713 in a disqualification proceeding.

RULES OF PRACTICE: DISQUALIFICATION

In establishing grounds for disqualification of an attorney on the basis of conflict of interest under 10 CFR 2.713, there need not be actual proof of injury or specific proof of the passing of confidential, non-public information from one client to another. Use of any information obtained from one client in support or assistance of another client with adverse interests in and of itself is sufficient to justify disqualification.

RULES OF PRACTICE: CANONS OF ETHICS

The burden of explanation of the future consequences and risks of continued employment in a situation in which there is a potential conflict of interest is solely on the attorney. The canons do not allow an implicit waiver with respect to future representation in such instances.

## RULES OF PRACTICE: DISQUALIFICATION

The Nuclear Regulatory Commission has jurisdiction to consider the disqualification of attorneys from practice before it for activities engaged in outside of the Commission's forum which have impact on representation within that forum.

## ORDER CERTIFYING RULING IN SPECIAL SECTION 2.713 PROCEEDING

By Order of January 19, 1976 (Attachment 1), this Board entered an order of suspension and disqualification in these proceedings of the firm of Squire, Sanders & Dempsey (the "Firm"), counsel for Applicant Cleveland Electric Illuminating Company. This order was issued pursuant to a motion for disqualification filed on November 20, 1975 by the City of Cleveland (City). Board member Smith dissented on the merits to this action of the Board. As required by the provisions of Rule 2.713, the order of suspension was stayed pending opportunity by the affected firm to be heard by another presiding officer.

By Order of February 24, 1976 (Attachment 2), a Special Atomic Safety and Licensing Board found no evidence of unethical conduct by the Firm, dismissed the charges preferred by this Board and vacated the order suspending counsel. The Special Board indicated that the City should be referred to the Bar Disciplinary Authorities in the State of Ohio in the event it wished to further plead and prove its claim of alleged unethical conduct. See Board Ruling In Special §2.713 Proceeding, p. 266, *infra.*

Special Board member Luton filed a separate opinion stating:

> . . . that Section 2.713(c)(2) is not intended to embrace attorney conduct where Commission action with respect to that conduct would not reasonably further the agency's mission.

Separate Opinion at p. 272, *infra.* The majority of the Special Board likewise concluded that:

> If such an analysis and conclusion [appearance of impropriety] had been rendered by a jurisdictionally-competent bar association grievance committee, we would have no procedural quarrel with it. However, we seriously question a licensing board's jurisdiction to adjudicate "appearance of impropriety" cases.

Special Board Order at p. 262, *infra*.

It is apparent that an important and novel jurisdictional question has been raised. Fairly construed, the two opinions of the Special Board lead to a conclusion that the Commission may lack jurisdiction to suspend attorneys for unethical actions occurring without the forum of Commission proceedings notwithstanding any impact these occurrences may have on representation before the Commission.* This jurisdictional basis for the decision of the Special Board, together with the holding that no evidence supports the finding of this Board of unethical conduct, present significant policy issues of first impression in this Commission. Because of the importance of attorney representation to the conduct of the entire proceeding (now well into the hearing stage), we indicated at the time of oral argument that certification would be considered. Both the Firm and the City indicated to the Board that in the event of an adverse determination, the losing party desired certification. See Memorandum of Squire, Sanders & Dempsey Opposing Motion for Order of March 10, 1976, p. 2.

## EVALUATION OF §2.730(f) STANDARDS TO THE DISQUALIFICATION DECISION

We recently have had occasion to consider the Memorandum and Order of the Appeal Board of February 26, 1976 in which Applicant's Motion for a direct certification under 10 CFR 2.718(i) was denied summarily. The Appeal Board eschewed the role of day-to-day monitor and indicated that neither an incorrect ruling nor potential prejudice resulting from that ruling require the intervention of the Appeal Board except in unusual circumstances. Neither does the mere possibility of reversal on appeal justify constant supervision by the Appeal Board over Licensing Board rulings. Further, in *Commonwealth Edison Co.* (Zion Station, Units 1 and 2), 6 AEC 258, the Appeal Board set forth the criteria that an issue worthy of certification involve an important or overriding issue of law or policy. With respect to the Zion opinion, we note the Appeal Board's observation of useful precedent arising out of federal judicial proceedings pursuant to 28 U.S.C. Section 1292(b). Accordingly, in deciding whether to certify the matter of attorney disqualification, we have been mindful of the standards enunciated by the Appeal Board and, in addition, have measured the applicability of Commission standards against attorney disqualification appeals brought pursuant to Section 1292(b).

*To be sure, the majority opinion emphasizes that they are not holding that a conflict of interest case may never justify invocation of a Section 2.713 remedy. Nonetheless, there is a significant difference between the criteria under which the separate board majority envisions invocation of the remedy and the standard applied by the initial Board. Although there was a dissent on the merits, no member of the initial Board questioned the Commission's jurisdiction to require suspension in the event a conflict situation as alleged to exist by the City is established.

Turning first to §1292(b) considerations, we find that notwithstanding earlier disagreements among the various circuits relating to the extent to which interlocutory appeal to review a disqualification order is appropriate, there is increasing agreement that because disqualification involves separable and final adjudication of rights independent of the cause of action itself, interlocutory appeal is proper. The principles underlying this rationale were articulated in *Cohen v. Beneficial Industrial Loan Corp.*, 337 U.S. 541, 546 (1949). The *Cohen* rule has been adopted with respect to disqualification orders by the Second Circuit*, the Third Circuit†, the Tenth Circuit‡ and the Fifth Circuit.§ Each of these opinions recognizes the "finality" of the disqualification order as a collateral determination independent from the actual subject matter of the proceedings. These cases also concentrate upon the practical considerations singled out by the Court in *Cohen* relating to a certain small class of decisions which are of sufficient importance to require immediate appellate consideration. 337 U.S. at 546-547.

In the instant proceeding, we are confronted with an issue of law and policy important to Commission policy and not dependent upon the outcome of the central proceedings before final resolution. At the same time, resolution of the disqualification question may prevent relitigation of the issues in controversy for factors unrelated to the Board's consideration of the issues themselves. The ruling of the Special Board has called into question the jurisdiction of this Commission to entertain certain disqualification motions and involves the intended scope of Rule 2.713. The jurisdictional question alone suggests a greater need for immediate appellate review.

## ULTIMATE DISQUALIFICATION AUTHORITY

Assuming that the conduct in question is within the Commission's jurisdiction, the question then arises as to how disqualification pursuant to that jurisdiction may be put into effect. Two boards must become involved before any disciplinary order can become final. However, Rule 2.713 is not entirely clear with respect to the status of an order of suspension in the event the Special Board finds that charges preferred under 2.713(c) should not be sustained. The Special Board construed its authority to include the dismissal of the charges and the vacation of the suspension and entered an order to that effect. Special Board

**Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 496 F. 2d 800 (2nd Cir. 1974).

†*Green v. Singer Co.*, 509 F. 2d 750 (3rd Cir. 1971).

‡*Fullmer v. Harper*, 517 F. 2d 20 (10th Cir. 1975).

§ *United States v. Garcia*, 517 F. 2d 272 (5th Cir. 1975).

Ruling at p. 267, *infra*. By Motion of March 1, 1976, the City of Cleveland moved for enforcement by this Board of the order of suspension, construing the role of the Special Board as merely advisory. The Firm and the Staff contest the City's reading of the rule. Thus, we are called upon to decide yet another issue of first impression; namely, the extent of our authority to order a Rule 2.713 suspension notwithstanding an adverse recommendation from the Special Board.

The Rule itself offers no guidance nor do we find any other indication by the Commission as to what the intended effect of the rule is to be. On balance, we conclude that final authority must vest with the initial Board, for it is that board which is charged with the ongoing conduct of the proceedings. To hold that final authority vested in the Special Board would undermine the ability of the initial Board to maintain control and to protect the integrity of its proceedings.*

Although we conclude that ultimate authority with respect to enforcement of a suspension order must vest with the Board before which the hearing is proceeding, there is a sufficient lack of clarity and the issue is of such importance that we believe this question must be certified.

## PROCEDURES BEFORE THE SPECIAL BOARD

Having decided that the initial Board should be the ultimate arbiter of disqualification, we then must decide the motion for the City of Cleveland that we enter an order of suspension notwithstanding the ruling of the Special Board. During the course of the proceedings before the Special Board, additional first impression questions as to the nature of that hearing and the scope of evidence to be received were raised into question. Basically, there was disagreement between the Special Board and the parties with respect to whether additional evidence relating to the charges preferred by the initial Board should or could be received. At the hearing before this Board on December 31, the City of Cleveland took the position that it would be entitled to introduce new evidence

*Obviously, the initial Board would have to give great deference to the decision of the Special Board prior to taking any action on an order of suspension in order to give any rational effect to Rule 2.713 as presently written. If the initial Board were free to disregard the findings of the Special Board, there would be little purpose in the requirement that a separate hearing on the charges be held. In those instances in which the initial Board does not accept the conclusions of the Special Board in a disqualification contest, it seems almost inevitable that the issue be certified for immediate resolution. The need for certification would be lessened where the two boards are in agreement, but, as discussed earlier in this memorandum, the collateral nature and finality of disqualification decisions may place them in a special class of rulings deserving certification in almost every instance.

before the Special Board in the event the initial Board failed to prefer charges.* The Firm, at the hearing before the Special Board, not only attempted to present evidence but made a proffer of evidence to preserve its objection to the refusal of the Special Board to admit that evidence.

We are of the opinion that the decision of the Special Board not to permit the parties to introduce additional evidence was correct. Were it otherwise, the initial Board would be forced to prefer its charges based upon an incomplete record, and in circumstances where the initial Board is not the charging party, there is no logical basis for placing the Board on this posture. Such a procedure would lead to inefficiencies in the administrative process. The parties would have an inducement to hold back evidence until they had an opportunity to examine the decision of the initial Board, and the Special Board would be ruling upon matters not even called to the attention of the Board charged with the proper conduct of the proceedings.

## THE DECISION OF THE SPECIAL BOARD

We now examine the question of whether we should vacate our order of suspension in light of the findings and conclusions of the Special Board. Those findings and conclusions not only represent the unanimous opinion of the Special Board that the charges drawn by this Board lack merit (Board member Luton filed a separate opinion setting forth the basis of his reasoning), but we must also consider the articulate dissent of Board member Smith to our initial order. Thus, we begin by considering whether the finding that our order cannot be supported does not require us to vacate that order.

We have already stated our disagreement with the Special Board with regard to at least one primary basis for its order, the jurisdiction of the Commission to order suspension based upon allegations such as those now before us. The Commission's decision in *Northern Indiana Public Service Company*, ALAB-204, 7 AEC 835, 838 and *Louisiana Power & Light Company*, ALAB-121, 6 AEC 319 cited in the March 1 Motion of the City of Cleveland, at least suggest a wider jurisdiction than that contempleted by the Ruling of the Special Board. More importantly, the jurisdictional limitation seems inconsistent with the Commission's Rule 2.713(b) which requires an attorney to conform to the standards of

*It should be noted, however, that this asserted right was grounded upon a contention that the initial Board would be in error in failing to consider certain of the Firm's documents which had been withheld from production to the City under claim of privilege. Parenthetically we note that the initial Board reviewed all privileged documents alleged to be connected with the Firm's representation of CEI and determined that they were in fact of a privileged nature and, further, that the content of those documents offered no evidence supporting the City's motion for disqualification. Tr. pp. 3228-31, 3260.

conduct required in the courts of the United States. To the extent that a court would order disqualification upon a finding that the City's allegations were supported by the evidence, the Commission by its own rule should do no less.

A second principal reason for rejecting the findings and conclusions of the Special Board is our disagreement with respect to the standard it employed in deciding whether there had been attorney misconduct. In our opinion, we stated at page 245, *infra*:

> We hold as a matter of law that it does not matter whether the information exchanged can be proved or demonstrated to have originated from confidential materials supplied by the client.
>
> The Firm's answer in part turns upon the fact that materials relating to the operation and financing of the City's electrical system which the Firm utilized in rendering advice to CEI were available from public sources as well as through data supplied by the City. This does not resolve the problem. As a practical matter, there is no way of separating information supplied by the client from information obtained through other sources. Moreover, it puts the law firm in the untenable position of making a judgment as to what information the client contends would be confidential. There simply is no objective way in which a firm can do this. Thus, public confidence in lawyers generally would be impeded if we would permit the Firm to prevail on its argument that information passed from one client to another was non-confidential in nature. [*Marketti v. Fitzsimmons*, 373 F. Supp. 637 (W.D. Wis. 1974)].

The Special Board, however, rejected the notion that no exchange of confidential information need be demonstrated. Special Board Opinion at p. 264, *infra*. Footnote 10.

> We are also aware that the nub of the City's complaint is its suspicion that the law firm in question might be giving an "edge" to the City's *de facto* adversary in this proceeding by transmitting "inside" information to CEI about the City's operations, capabilities or condition, which information *may* have been obtained from the City in the firm's earlier lawyer-client relationship with the City. However, no such non-public information has been specified and the record discloses no such breaches of confidence, . . . Even if the sanction of prohibition from legal representation of the non-complaining party were authorized by the ABA rules referred to (it is *not*), it seems that before destroying such valuable representation, on such a potentially damaging charge, the Board should have required hard evidence of injury-in-fact or at least evidence of specific "confidences" that were breached . . . .

It follows that we are in complete disagreement with the earlier majority's view that a *licensing board* can take such harsh action without such specific evidence and that "as a matter of law . . . it does not matter whether the information exchanged can be proved or demonstrated to have originated from confidential materials supplied by the client." [Majority, p. 245, *infra*].

It is not surprising that the two boards came to different conclusions with respect to the establishment of an evidentiary basis upon which to predicate disqualification. The conduct in question was measured against different standards, and the applicability of that standard is basic to the outcome of this decision.

After further reflection, we adhere to our view that there is no realistic way for the challenging party to determine if information exchanged within the Firm is thought to be confidential. Moreover, the requirement of such a test would discourage clients from discussing their affairs with candor and without reservation with their chosen attorney. A rule which requires the client to weigh and evaluate the use or misuse of information he supplies his lawyer, prior to disclosing that information, will discourage efforts to obtain competent advice based on full disclosure of all facts relevant to the issue under consideration. Accordingly, we reject the concept that there need be actual proof of injury or "specific proof of the passing of confidential, nonpublic information from one client to another" (Special Board Opinion at p. 262, *infra*) as required by the Special Board.

We believe that use of information obtained from one client, whatever the nature of that information, in support or assistance of another client with adverse interests in and of itself permits the supplying client to obtain disqualification of the attorney.

A third reason for declining to accept the recommendation of the Special Board is our disagreement that "no evidence of unethical conduct" appears in the record. We rely specifically upon the June 21, 1974 Lansdale to Hauser letter and the accompanying memorandum of Brueckel to Lansdale of May 21, 1974.* All three members of the Special Board accepted the argument that the crucial May 21 memorandum related to municipal law generally and therefore did not represent an instance of cross-fertilization between attorneys loyal to different clients. We cannot agree that this is a correct reading of that memorandum. The subject of the memorandum is a specific agreement between Cleveland and CEI to supply electricity generated by nuclear power plants and

*We are not persuaded that the "Little Hoover Commission" incident of 1966 does not provide any evidence of the exchange of confidential information, but were this the only support for the City's allegations we might accept the findings of Mr. Smith and the finding of the Special Board.

the memorandum is directed to satisfying "the understood desire of CEI to have the agreement highlight the Municipal Light and Power Plant and System (MELP) to the maximum possible degree." A reading of the text of the memorandum indicates that its focus is on a specific problem and is not an expository view of municipal law generally. Although short, the memorandum deals particularly with the relationship of MELP to the City of Cleveland and not to the general subject of municipally-owned light plants. Paragraph three of the memorandum indicates that the author had given his attention to "the ordinance authorizing electric financing currently being offered for sale"—i.e., the 1972-73 bond issue. We simply do not believe that Mr. Lansdale consulted Mr. Brueckel because of his general knowledge of the relationship of municipalities to their electric system. We can come to no conclusion other than that Mr. Brueckel was consulted because of his familiarity with the Cleveland system and the intricacies thereof. This special knowledge undoubtedly came about in connection with his activities as bond counsel to the City of Cleveland. Further, we believe the nexus to these proceedings to be clear since the memorandum on its face refers to agreements to supply electricity generated by nuclear power plants. The terms and conditions of such agreements, specifically whether they constituted good faith offers of access, are issues of debate in these very proceedings.

Finally, the memorandum may represent only the tip of the iceberg. We do not know what conversations attorneys Lansdale and Brueckel had with respect to the framing of this memorandum or information exchanged orally rather than in written form. We do know there was some consultation between the two attorneys and we reiterate our finding that the burden cannot be on the challenging party to demonstrate how deep that contact was.

We also have considered the Special Board's ruling that multiple representation is not established in circumstances in which a firm which originally represents two clients makes an election to represent only one of those clients when they are placed in adversary positions. Special Board Opinion at p. 265, *infra*. We continue to think that under the circumstances present, either former client can insist upon the withdrawal of the firm in order that the other client not gain a tactical advantage during the course of the litigation.*

We also have given further consideration to the issue of waiver by the City of any right to disqualify based upon its solicitation of representation in connection with the 1972-73 bond issue. With deference to the Special Board, we continue with the view that the Canons do not allow an implicit waiver in connection with future representation. EC-5-16 does not turn upon the legal sophistication of the client, but places the burden of explanation of future consequences and the risk of continued employment solely on the attorney.

*EC-5-16 speaks of *both* clients' consent to continued employment.

## QUESTIONS CERTIFIED

For the foregoing reasons, we cannot agree that there was "no evidence" to support our findings, and for that additional reason, we must reject the recommendation of the Special Board.

The following questions are certified to the Appeal Board:

(1) Whether the jurisdiction of the NRC under Rule 2.713 extends to situations covering attorney conduct outside of the NRC forum which has an impact on representation within that forum.

(2) Whether the Special Board has the ultimate authority to put into effect or to vacate an order of suspension under Rule 2.713.

(3) Whether a showing of either actual injury or specific exchange of information of a confidential nature is required to enforce a finding of attorney misconduct based upon the exchange of *some* information supplied by one client of an attorney to another client of that attorney whose interests are adverse to the original client.

(4) Assuming the answer to question two is negative and three is affirmative, whether in the circumstances now before us the order of disqualification may be upheld.*

For the reasons set forth in our Order of January 19, 1976, and taking into account the findings and conclusions of the Special Board in its Order of February 24, 1976, we now determine pursuant to Rule 2.713(c) that suspension of the Firm is necessary and required and we so order. This order will be stayed pending decision by the Appeal Board with respect to the questions certified hereunder.

It is so ORDERED.

ATOMIC SAFETY AND
LICENSING BOARD

John M. Frysiak, Member

Douglas V. Rigler, Chairman

Dated at Bethesda, Maryland
this 19th day of March 1976.

*We recognize that of the four questions, this may be the least deserving of certification. In some respects, it more partakes of a request for a review of a ruling than determination of a question of law or Commission procedure. Nonetheless, it does have the necessary elements of finality and separability from the issues in controversy and we believe that it deserves resolution at this time.

## SEPARATE OPINION

I have not joined in the order certifying the disqualification matter primarily because I continue to disagree with the majority's conclusions regarding the merits of the controversy. My opinion, as set forth in the memorandum dissenting from the Board's initial order of suspension, remains essentially unchanged.

However, with some reservation I concur with the Board's action certifying questions of NRC jurisdiction, special board's authority, applicable standards of attorney conduct, and whether the order of suspension on its merits may be upheld.

Certified question Number 1 relates to the Commission's jurisdiction to promulgate rules controlling attorney conduct. Member Luton of the special board has accurately described our jurisdictional reach (thus the scope of §2.713) as "... not intended to embrace attorney conduct where Commission action with respect to that conduct would not reasonably further the agency's mission." He states also that some conduct reached by §2.713 could occur out of the presence of the board provided it "... bears substantially and directly on a matter which is before that Board."*

All members of both boards seem to accept this standard and agree that the conduct questioned in this case occurred beyond the perimeter of this forum. Differences arise in evaluating whether the challenged conduct substantially and directly relates to the proceeding before this board. My opinion, as stated earlier, is that there was insufficient proximity between the 1966 incident and this proceeding to invoke NRC jurisdiction. The majority of this board applied the correct standard of jurisdiction (but to incorrect findings of fact and to impermissibly narrow ethical considerations) in relation to the 1972-73 incident of dual representation.

Certified question No. 2 pertains to the authority of the special board to put into effect or to vacate an order of suspension. I continue to agree with the majority of this board that the responsibility and authority rests with the initial board and that this authority is an important part of a hearing board's power to regulate the conduct of proceedings before it.

In addition, placing the responsibility upon the initial board is preferable because it is that board which better perceives the factual background against which the matter should be resolved. Moreover, while the language of §2.713 is confusing in some respects, this confusion does not extend to the question of which board has the final authority to suspend attorneys. A hearing by "another presiding officer" upon charges preferred by the first presiding officer is a

*Mr. Luton's separate opinion, p. 272, *infra*.

condition precedent to ordering the suspension of an attorney by the first presiding officer. While I believe that the special board did not intend its ruling to be more than advisory, there is enough confusion and disagreement among the parties and between the two boards to justify certification of the issue.

Certified question No. 3 relates to injury and to confidential or public information shared with a client. It is an appropriate consideration for certification, but it is too narrow to play the role assigned to it. Certified question No. 4 suggests that the validity of the Board's order of disqualification depends upon the answers to questions 2 and 3. This is not the whole situation.

For example, it is true that *Marketti* v. *Fitzsimmons*, 373 F. Supp 637 (W.D. Wisc. 1974) is correctly cited by the majority for the proposition that a conflict of interest or a breach of duty can arise even where the client's affairs are not confidential. But a conflict or breach of duty is not inevitable in every dual representation of contending parties. Our case cannot be decided upon a theoretical ideal in a void of other factors. Also to be weighed are questions of motive, reasonableness, harm, injury to an innocent party, counterbalancing ethical considerations and the clean hands of the accuser. Finally, we must also determine whether the relief sought by Cleveland is necessary and would be effective in regulating our proceeding. Board action exceeding this purpose and result is beyond the jurisdiction of this Commission.

Ivan W. Smith

Dated at Bethesda, Maryland
this 19th day of March 1976.

ATTACHMENT 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Douglas V. Rigler, Chairman
Ivan W. Smith, Member
John M. Frysiak, Member

In the Matter of

| | |
|---|---|
| THE TOLEDO EDISON COMPANY and THE CLEVELAND ELECTRIC ILLUMINATING COMPANY | Docket Nos. 50-346A 50-500A 50-501A |
| (Davis-Besse Nuclear Power Station, Units 1, 2 and 3) | |
| THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL. | Docket Nos. 50-440A 50-441A |
| (Perry Nuclear Power Plant, Units 1 and 2) | January 19, 1976 |

## MEMORANDUM AND ORDER OF THE BOARD SUSPENDING COUNSEL FROM FURTHER PARTICIPATION AS ATTORNEY IN THESE PROCEEDINGS

By Motion of November 20, 1975, the City of Cleveland (City) moved this Board to disqualify the law firm of Squire, Sanders & Dempsey (the Firm), together with its Washington office, Cox, Langford & Brown, from appearing and/or acting as attorneys for the Applicant Cleveland Electric Illuminating Company (CEI) or for any applicant in this matter, and to declare them ineligible to participate further in this proceeding and to prohibit them from aiding or advising new counsel or counsel for other Applicants. The basis for this Motion is an asserted conflict of interest arising from the Firm's prior dual representation of CEI and the City and its current representation of CEI in these proceedings.

Although the Motion, as filed, contemplated the immediate suspension of the Firm, it was evident from the outset (1) that a hearing as requested by the City could not be conducted within the time frame established by the Commission's Rules,* (2) the Motion was filed on the very eve of the hearing,† and (3) correspondence made available to this Board between the City and the Firm indicated that the City had been aware of the basis for disqualification and had been insisting upon the voluntary withdrawal of the Firm for a period of several months before the City's eleventh hour filing. Under these circumstances, the Board determined that it would be unfairly prejudicial to CEI to take any action with respect to the Motion without affording a full opportunity for briefing and hearing and that any initial representation of CEI by the Firm during the first few weeks of hearings, even if disqualification were to be ordered, would be directly attributable to the untimely filing of the City's Motion. Accordingly, we permitted the Firm to continue to serve as counsel to CEI until such time as the Board, on an accelerated schedule, was able to render its decision.

The City's brief in support of its Motion was filed on December 1, 1975. The City, with the prior consent of the Board, filed a supplemental brief on December 10, 1975. An answer brief on behalf of John Lansdale, Jr., a partner in the Firm, in opposition to the Motion was filed on December 12, 1975. It is not clear why the answer brief did not carry in its caption the names of Squire, Sanders & Dempsey or its Washington office, Cox, Langford & Brown.‡ Nonetheless, it is apparent that the City's Motion encompassed the entire Firm and properly was addressed to the Firm as a whole including its individual partners. ABA Code of Professional Responsibility, Disciplinary Rule 5-105; *Consolidated Theatre v. Warner Bros. Circuit Management Corp.*, 216 F.2d 920 (2nd Cir. 1954); *American Can Co. v. Citrus Feed Co.*, 436 F.2d 1125 (5th Cir. 1971). Further, at the oral argument counsel for Mr. Lansdale and/or the Firm made no attempt to distinguish between the disqualification of Mr. Lansdale personally or the disqualification of the Firm. Finally, if it is represented that the opposition to the Motion was filed only on behalf of Mr. Lansdale, the Motion relating to the Firm would be subject to grant through default of the Firm in filing a timely answer.

*Applicant's November 20 communication enclosing the Motion to Disqualify requested a hearing at the final prehearing conference then scheduled for Wednesday, November 26, 1975.

†Last minute schedule adjustments necessitated the actual commencement of hearings on December 8, 1975 instead of December 1, 1975.

‡CEI's February 14, 1974 Notice of Appearance in Docket Nos. 50-44A (sic) and 50-441A (Perry 1 and 2) includes the name of John Lansdale, Jr., Esq., Cox, Langford & Brown. In referring to this Notice, Mr. Lansdale speaks of "our Entry of Appearance", thus confirming that the Firm rather than a single individual is subject to this motion. Exhibit Q to City's Brief.

The Board requested the parties to suggest a mutually convenient date for oral argument on the Motion and at the request of the parties, we devoted the morning of December 31, 1975 to that argument.

## I. INTRODUCTION–RULE 2.713

Although the City contends that there is an inherent authority on the part of the Commission to control conduct of attorneys irrespective of any particular provisions of the Rules, it seems clear to us that disposition of the Motion is governed by §2.713 of the Commission's Rules of Practice. In pertinent part the Rule provides:

> (c) *Suspension of attorneys.* A presiding officer may, by order, suspend or bar any person from participation as an attorney in a proceeding if the presiding officer finds that such person:
>
> (1) Is not an attorney-at-law in good standing admitted to practice before any court of the United States, the District of Columbia, or the highest court of any State, territory, or possession of the United States;
>
> (2) Has failed to conform to the standards of conduct required in the courts of the United States;
>
> (3) Is lacking in character or professional integrity;
>
> (4) Engages in dilatory tactics or disorderly or contemptous conduct; or
>
> (5) Displays toward the Commission or any of its presiding officers conduct which, if displayed toward any court of the United States, would be cause for censure, suspension, or disbarment.
>
> Any such order shall state the grounds on which it is based. Before any person is suspended or barred from participation as an attorney in a proceeding, charges shall be preferred by the presiding officer against such person and he shall be afforded an opportunity to be heard thereon before another presiding officer.

As to the precise subpart of 2.713(c) at issue, it is apparent that the thrust of the City's argument relates to subpart (2) of this provision. The essence of the City's position (other than the general ground relating to attorney conduct standards referred to above) is that dual representation by the Firm places it in a conflict position in violation of standards of conduct required in the courts of the United States. It is this standard which we shall use in evaluating the City's charges.

To our knowledge, the instant disqualification motion will be a first impression issue under Rule 2.713. The Rule provides that we may by order suspend the Firm as requested by the Motion upon a finding that any subpart has been violated and that the order of suspension shall state the grounds upon

which it is based. The Rule goes on to provide that charges shall be preferred against the affected attorneys and that prior to their suspension these attorneys shall be afforded an opportunity to be heard before another presiding officer.*

## II. THE FACTS

The Firm has served both CEI and the City for more than sixty years. It has represented the City primarily, though not exclusively, in the capacity of bond counsel which representation has included analysis and legal advice with respect to financing the City's Municipal Electric Light & Power Plant (MELP). Answer Brief at 2. The Firm's billings to the City have been substantial although the amounts billed have varied annually subject to the work load and, in particular, with respect to the level of financing activity under contemplation by the City. In 1974 the Firm received $147,000 from the City, and during the first one half of 1975 the Firm was paid $107,000 by the City. City's Brief at 1. In 1974 the Firm received $449,000 from CEI. City's Brief at 1. Messrs. Lansdale and Besse, senior partners of the Firm, serve as directors of CEI and are compensated in connection with these services. City's Brief at 1.

The City contends that due to the long-standing pre-eminence of the Firm with respect to legal opinions necessary to market successfully bond issues in the northern Ohio area, the City is dependent upon representation by the Firm and

*Our analysis of the Rule indicates to us that the provision for reference to another presiding officer was designed to provide due process and fairness in situations in which the conduct of the affected attorney before the Board or the Commission is in issue. It is designed to obtain a neutral or objective look at circumstances in which the Board may have an involvement in the suspension proceedings either because it is the moving party with respect to the suspension or because contumacious conduct has been displayed toward the Board. These circumstances do not apply here. The Board has had no occasion to criticize the performance or the conduct of the affected firm, and there is no contention that due process rights of the firm would be violated because this Board would be less than objective in making its finding.

Because no due process violation can be envisioned, the City urges that the provision of 2.713(c) requiring the preference of charges and reference to another presiding officer does not and should not apply with respect to the instant motion. Despite our agreement that the rationale requiring referral is not appropriate to this motion, the Rule provides no leeway in our course of action. Accordingly, the suggestion of the City must be rejected, and we will adhere to what we regard as the necessary requirements of the Rule as written. It may be that as a result of this first impression consideration under the Rule, the Commission will wish to amend the Rule to achieve savings of time and resources of the Commission under circumstances where the objectivity of the Board is not a factor in deciding disqualification. Perhaps the reference to another presiding officer should apply only to situations encompassed within §2.713(c)(3), (4), and (5).

cannot obtain comparable services from other law firms. The Board is not willing to make a finding that the services of Squire, Sanders & Dempsey are indispensable, or that the City is unable to obtain other law firms which can provide services necessary to the successful sale of municipal bonds and notes. We do recognize that a transition period would be required before another firm could acquire the same degree of expertise with respect to the City's financial condition and municipal administration that the firm of Squire, Sanders & Dempsey has acquired during the past several decades. We are unable to make any finding with respect to whether substitution of another firm as bond counsel to the City would result in greater legal expenses to the City, but we do not consider this to be a relevant factor in our consideration.

We are asked to address two particular situations which allegedly have an immediate bearing upon the Firm's representation of CEI in these proceedings. These are a 1963 mortgage revenue bond issue and a $9.8 million bond ordinance of 1972. A third incident called to our attention occurred in October of 1966 in which Mr. Lansdale wrote to Mr. Hauser, general attorney of CEI, with relation to the City's (MELP) indenture of mortgage and municipal electric light plant rates. Exhibit E to City's Brief. Karl Rudolph, an intended recipient of information contained in the memorandum enclosed in the Lansdale correspondence on these subjects, then was serving in the capacity of president of CEI.

We make special reference to the October 26, 1966 memorandum to the file signed by John Lansdale which accompanies City's Exhibit E, Mr. Lansdale's cover letter of October 27, 1966 to Mr. Hauser. Page one of the October 26, 1966 memorandum makes abundantly clear that in discussions covering a "Little Hoover Commission Report" on MELP relating to general fund assessments for street lighting and payment terms under the trust indenture of MELP revenue bonds, Mr. Lansdale directly consulted with Mr. Brueckel, a Squire, Sanders & Dempsey partner who has been engaged in the representation of the City with respect to its bond work. Mr. Lansdale's memorandum states:

> We suggested to the Company that the competitive rates of The Cleveland Electric Illuminating Company could probably be taken as a measure of reasonableness. Mr. Brueckel and I met with Mr. White and his associate, Mr. Beecher, and discussed this matter and we have, with the assistance of George Barry, again reviewed this problem.

We find that in this instance there was specific cross-fertilization within the Firm with respect to matters jointly affecting CEI and the City in which the interests of the parties were or could have been adverse. We further make a specific finding as to Mr. Brueckel's Affidavit at page 11 that the assertions "With respect to the Municipal System, my legal services and those of my firm have been strictly limited to the service of bond counsel . . ." and "I have never handled legal matters for The Cleveland Electric Illuminating Company, nor have

I had contact with those executive officers or its house counsel in connection with any of the matters referred to herein including the financing matters with respect to which I have acted as bond counsel for the City of Cleveland" are questionable and that they obscure Mr. Brueckel's consultation with Mr. Lansdale, an attorney representing CEI and a member of the CEI Board of Directors. As will become apparent with reference to our discussion of the applicable legal standards contained in the ABA Code of Professional Responsibility, Mr. Brueckel's conversations with Mr. Lansdale constituted a prospective conflict in the event of future controversies between CEI and the City which involved financing of the MELP system, its rate structure and its payment obligations with respect to various trust indentures, and we so find.*

Also pertinent is Exhibit G to the City's Brief, a February 18, 1965 letter from John Lansdale to Ralph M. Besse, then president of CEI (now a Squire, Sanders & Dempsey attorney) relating to a proposal for interconnection between CEI and MELP. The letter and the memorandum enclosed relate to CEI's proposal that MELP raise its rates to private customers. Mr. Gibbon, the author of the memorandum, apparently had served the City in connection with its bond and financing problems. Through testimony of one of the witnesses at the hearing, the former chief engineer for the City, 1971-73, Mr. Hinchee, there now is evidence before this Board that competition between the City and CEI focused upon the factors of (1) reliability and (2) service. The City's competitive disadvantage of being less reliable in providing electric service to its retail customers was offset by its lower rate structures which encouraged customers to remain with it. Thus, we find a direct relationship between CEI's proposals "that the rates to the municipal plants' private customers be increased" as represented in the Gibbon to Luke memorandum (Exhibit G to City's Brief) and one possible area of controversy before this Board.

With respect to the 1963 mortgage bond issue in which the Firm represented the City, we find that this representation is too remote in time to be a meaningful factor with respect to the present proceedings, and there is no basis to disqualify Squire, Sanders & Dempsey based on the 1963 representation. We note that this Board established a post 1965 boundary date for discovery and we have permitted the parties to discover pre-1965 materials only upon a showing of good cause.

Although we find that the Firm may be in a conflict position in this proceeding with respect to the 1965-66 Lansdale/Hauser/Resse/Gibbon correspondence relating to the City's rates, interconnection agreement, financing and plant system financing, we are even more concerned with 1972-1973 MELP financing activities of the City. In 1971 John D. Brueckel, a partner of the Firm,

*We also reject as inconsistent with the record the argument of counsel for the Firm at Tr. 2523, l. 4-12.

was approached by Howard Holton of the City's Department of Financing with a request to handle the issue of additional notes under a 1971 bond ordinance. Prior to any response by the Firm, however, the City attempted to obtain the services of other bond counsel including a counsel suggested by Squire, Sanders & Dempsey. Following the City's unsuccessful attempts to employ other bond counsel, the Firm again was approached, this time by the City's Law Director, Richard Hollington, Jr., with a request that the Firm serve as bond counsel in connection with this new financing. Answer Brief at 10; Affidavit of John Brueckel pp. 3-7. It is charged that while serving as bond counsel for the City, the Firm supported efforts to undermine City Counsel consideration of an ordinance which would have been more advantageous to the City, and instead supported an amendment presented by Mr. Hauser, a general attorney of CEI, which required that the bonds be sold only at a public sale and not offered to the sinking fund or the treasury investment account. Further, it is contended that Mr. Brueckel may have made available to other Firm partners working on CEI affairs information which the City discussed with or made available to him in connection with the bond representation.

On its part, the Firm contends with respect to the 1972-1973 bond issue that it undertook its representation of the City only after clearing the request with its client CEI and only upon the City's agreement to request in writing representation by the Firm in connection with this ordinance. A copy of Mr. Hollington's letter of July 24, 1972 to Mr. O'Loughlin of Squire, Sanders & Dempsey requesting such assistance is enclosed as Exhibit B to the Brueckel affidavit. Although there is no doubt that the City importuned the Firm to serve as bond counsel, we find that this request letter does not support the Firm's contention that the City was fully advised with respect to the effect of this representation upon the City in the event any new controversies between CEI and the City were to develop involving the City's financing of its electric system.

We find that the issue of the City's ability to finance its electric system, the issue of the reliability of the City as a factor precluding its participation as a member of a power exchange agreement such as the CAPCO pool which figures so intimately in our proceedings, and the City's financial ability to pay for interconnection agreements and/or transmission facilities which would enable it to obtain power from sources outside of the CEI service area all are factors which have been introduced into these NRC proceedings by CEI. Special counsel for the Firm (for purposes of the disqualification motion) stated that due to the limited nature of his appearance in these proceedings, he was unaware of the nature of the controversy being considered by this Board and he conceded that if these issues were pending, a conflict might arise with respect to the Firm's bond counsel activities. Tr. pp. 2525-6. We find that there was no express waiver on the part of the City with respect to representation of CEI by the Firm in

possible future adverse proceedings between CEI and the City, and we find that notwithstanding the City's awareness of pending controversies between CEI and the City, no act, statement or discussion of Squire, Sanders & Dempsey pointed out to the City the effects of this representation upon possible future litigation before the NRC.

## III. LAW FIRM DOCUMENTS AS TO WHICH CEI ASSERTS PRIVILEGE

Attached as Exhibit H to the City's Brief in Support of Motion is a list of documents withheld from production by CEI under claim of privilege which are alleged to represent correspondence between CEI and the Firm. The City asks us to consider these documents to ascertain if they demonstrate an abuse of client confidences by the City through the Firm's subsequent discussion or transmittal of City data to CEI by Squire, Sanders & Dempsey attorneys. Also involved, and prohibited according to the City, would be discussion or transmittal of City supplied or generated data to Firm attorneys engaged in the representation of CEI.

At oral argument, Mr. Lansdale asserted that the Firm would raise no claim of privilege in connection with review of these documents*, but CEI stood on its claim of privilege. Subsequently, it was pointed out by this Board that if Mr. Brueckel represented in his affidavit that he performed no services on behalf of CEI it would be anomalous to permit CEI to assert privilege on Brueckel authored or action documents. At this juncture, CEI undertook a reappraisal of the Exhibit H documents together with a handful of other Squire, Sanders & Dempsey documents which were located pursuant to this Board's directives to the Atomic Safety and Licensing Board Panel support staff to pull all Firm documents contained in the file of privileged material.

As a result of this review, CEI advised the Board that it stood on claim of privilege with respect to most of the documents, but it waived privilege with respect to certain documents which then were distributed to the parties. At the Board's request, CEI re-examined its position with respect to one additional document and waived claim of privilege as to that document.† With respect to the documents as to which privilege was raised, we refer to only two in connection with our decision. These two, however, are crucial documents in that in and of themselves they demonstrate an abuse of the Firm's client relationship

*The privilege in any event is that of the client and not the attorney.

†Memorandum of February 25, 1972, Obermeyer to Howley. We attach no significance to this communication in reaching our decision even though it indicates contact between a CEI employee and Mr. O'Loughlin, a Firm attorney in the bond department.

with the City and they contradict the implications if not the direct language of the Lansdale and Brueckel Affidavits. We refer to a June 17, 1974 letter from Mr. Lansdale to Mr. Hauser, a general attorney for CEI, which encloses a memorandum written to Mr. Lansdale by Mr. Brueckel dated May 21, 1974 "concerning the problem of contracting with the MELP rather than the City of Cleveland." In addition, the letter refers to conversations on this subject between Mr. Brueckel and Mr. Lansdale, and states that Mr. Lansdale also conferred on the subject matter of the memorandum with Mr. O'Loughlin of the Firm. The memorandum which is dated May 21, 1974 is from Mr. Brueckel to Mr. Lansdale and a carbon copy to Mr. O'Loughlin is shown. The memorandum is directed to "*the proposed agreement between the City of Cleveland and CEI concerning the supply to the City of electricity generated by nuclear power plants, and the understood desire of CEI is to have the agreement highlight the Municipal Light and Power Plant and System (MELP) in the maximum possible degree.*" (Emphasis added). Not only does this memorandum make clear that Mr. Brueckel has been informed of "the understood desire of CEI" with respect to the fashioning of this agreement, but that there is a direct nexus between these proceedings and the information being exchanged in that the agreement specifically contemplates supply of nuclear power which would have to be from either the David-Besse or Perry units. Because of their importance, we attach copies of these two documents to this Memorandum and Order as Exhibits A and B.

These exhibits cast doubt upon any inference contained in the Lansdale or Brueckel affidavits that there was no cross-fertilization or transfer of information obtained in connection with providing services to one client to the attorneys handling the affairs of another client. In addition, we note that the record now reflects conversational contacts between various of the Firm's partners who are engaged in representing the diverse interests of CEI and the City.

## IV. THE LAW

Our attention has been directed to several provisions of the American Bar Association Code of Professional Responsibility.* In our judgment, Ethical Canons 5-16, 5-15 and Disciplinary Rules 5-101(A) and Disciplinary Rule 5-105(B) and (C) are most applicable here. Although we hold Ethical Canon 5-16 to be dispositive, we also rely in particular upon the provisions of Disciplinary Rule 5-101 which require full disclosure and a knowing consent on

*These provisions have been adopted in whole or in part by many local jurisdictions including Washington, D. C., the address used by Mr. Lansdale in his Notice of Appearance.

the part of the affected client prior to waiver for dual representation purposes, and upon Disciplinary Rule 5-105(B) relating to the continuation of multiple employment.* An extremely careful reading of the Firm's Answer Brief and the Affidavits attached thereto discloses that substantial opportunities existed for the transfer of confidential information supplied by one client (the City) to attorneys in the Firm representing the interests of another client (CEI). We hold as a matter of law that it does not matter whether the information exchanged can be proved or demonstrated to have originated from confidential materials supplied by the client.†

The Firm's answer in part turns upon the fact that materials relating to the operation and financing of the City's electrical system which the Firm utilized in rendering advice to CEI were available from public sources as well as through data supplied by the City. This does not resolve the problem. As a practical matter, there is no way of separating information supplied by the client from information obtained through other sources. Moreover, it puts the law firm in the untenable position of making a judgment as to what information the client contends would be confidential. There simply is no objective way in which a firm can do this. Thus, public confidence in lawyers generally would be impeded if we would permit the Firm to prevail on its argument that information passed from one client to another was non-confidential in nature. *Marketti v. Fitzsimmons*, 373 F. Supp. 637 (W. D. Wis. 1974).

Second, the fact that the City may have been aware of then pending controversies between CEI and itself at the time it requested the Firm to undertake bond counsel representation in 1972-73 does not mean that the City was specifically notified as required by Ethical Canon 5-16 or Disciplinary Rule 5-105(A) of the pending conflicts so that the City could make an intelligent waiver of its rights.* Also, it is probable that Disciplinary Rule 5-105(A) required the Firm to decline to represent CEI at the time the City petitioned to intervene in the above proceedings. We note that this particular Disciplinary

*It may be argued that if the Firm withdraws from current non-NRC representation of the City, there will be no multiple employment. Nonetheless, such client confidences as may have been available prior to the withdrawal unquestionably could create an assumption in the minds of the public that the Firm has an ability to utilize confidential client communications in a fashion adverse to that client.

†Attorney Brueckel, however, may have disclosed such information. See, *e.g.*, October 1966 conference with Lansdale, City Brief Exhibit E.

‡Mr. GALLAGHER (for the Firm): "I think if the obligation is on us to spell out a verbatim disclosure, we would be hard put to do it, because I think in this particular case we were not dealing with laymen, that we were not dealing with individuals. We were dealing with Mr. Holton, who had the various functions I have indicated to you over a number of years, an extremely sophisticated man. We were dealing with the law director." [Tr. p. 2544, l. 1-7].

Rule does not turn upon any issue of knowledge or waiver on behalf of the client. It places the sole responsibility on the lawyer to decline the proffered employment. Of similar effect is Disciplinary Rule 5-105(B) relating to the continuation of employment.

It seems apparent that when the Firm agreed to represent the City in connection with the 1972-73 bond issue, the Firm was aware that problems of future conflicts might arise. Indeed, this might account for the Firm's reluctance to undertake such representation without a written request by the City. That this course of action also portends an awareness on behalf of the Firm that a natural or inevitable consequence of its acquiescence in representation of the City might be disqualification in some future proceeding. This is particularly true in instances where no *express* waiver was granted with respect to such future conflicts. It is clear from the record that no express waiver was granted, and we find no basis for holding that there was any *implied* waiver with respect to NRC proceedings.* Moreover, the Affidavit of Daniel O'Loughlin expressly states that the request for written clearance by the City is requested "*because of the existing controversy*", and not because of possible future conflicts. Once again, since the obligation to obtain specific consent or to withdraw from later conflicting litigation is primarily that of the Firm, it is no answer to assert that the City was a sophisticated client which maintained a law department of its own.

Finally, we address the question of possible prejudice to the client if its chosen counsel should be required to withdraw. At the outset, we recognize that great weight should be accorded a client's desire to select its own counsel, particularly where that chosen counsel has served as general counsel for the client for a period of more than sixty years. We should not proceed lightly to require the client to seek alternate counsel. At the same time, CEI should have been aware since at least August of 1975 that a motion to disqualify would be filed if Squire, Sanders & Dempsey did not voluntarily withdraw from participation in these proceedings. Thus, although we refused to defer to the City's demand for immediate relief because of the City's tardy and untimely filing, we also place some burden of anticipation of possible disqualification and the consequences thereof on CEI. Surely, Squire, Sanders & Dempsey had a duty to inform CEI that the City was demanding its withdrawal as counsel in these proceedings. We assume the Firm made the requisite notification to its client CEI when the issue of possible disqualification arose.

---

*Certainly the written request by the City does not suggest any waiver is being granted. Hollington letter of July 24, 1972 to O'Loughlin, attached as exhibit A to O'Loughlin affidavit to Lansdale Answer Brief.

We also note that CEI has not been dependent solely upon the services of the Firm in representing it in these proceedings. A substantial part of CEI's representation to date has been performed by another law firm which has represented in a thoroughly professional and competent manner the interests of CEI and other applicants as well. The City has also had the benefit of legal advice from its own highly qualified staff of house counsel. While the house counsel most familiar with these proceedings recently voluntarily agreed not to participate actively in argument and cross examination in these proceedings because of the possibility that he might wish to testify on behalf of CEI, nonetheless his legal counsel and advice has been and is readily available to CEI. Lastly, without in any way minimizing what CEI obviously regards as extraordinarily valuable counseling and rendering of legal services by the Firm, we note that it has played no substantial speaking role in these proceedings during the last year and a half. Of course, we do not know the extent of behind the scenes advice rendered by the Firm and we cannot say that CEI has not relied substantially upon the Firm's advice in determining what course of action to pursue in these proceedings.

## V. CONCLUSION

It is with regret that we conclude that the City has made its case that application of the Ethical Canons and Disciplinary Rules cited, *infra*, require us to prefer charges for suspension and disqualification as requested in the City's motion. As we do so we note once again the high degree of professional skill which both CEI and the City impute to the Firm; the Board's lack of criticism of any action undertaken by that Firm in the instant proceeding; and the Firm's own careful evaluation of its ethical responsibilities before it made its decision not to withdraw voluntarily. Our reading of the correspondence and the briefs relating to this motion, and the Firm's retention of its own separate counsel to advise and present its side of the case suggests strongly that the Firm is convinced that its continued participation would not in any way constitute a violation of the standards of conduct required by the courts of the United States. Although we disagree with this conclusion, it appears that the Firm made its decision based upon a thorough review of the facts the Canons, the Disciplinary Rules and after soliciting outside objective comment.

Based upon the above findings and application of the above set forth principles of law, we find that suspension as requested in the City of Cleveland's motion of November 20, 1975 is warranted, and we hereby prefer charges under Rule 2.713(c)(2) supporting such disqualification and refer these charges to another presiding officer in accordance with the provisions of Section 2.713(c). The grounds for these charges are:

(1) That since at least 1965-66 there has been a cross fertilization within the Firm in which information supplied by the City to the Firm in connection with financing and bond counsel activities has been made available to other members of the Firm who are engaged in the representation of CEI. We hold the fact that this information in whole or in part may have been available from other public sources to be irrelevant to the underlying ethical considerations. We further hold that as a practical matter it is not possible to determine how much of the transmitted material, either written or oral, involved the Firm's intimate knowledge of the City's legal affairs and operations and how much properly could be characterized as client-confidential information. In these circumstances, public confidence in the law requires that *no* such information emanating from one client be made available within the Firm to counsel representing a client with adverse interests.

(2) We hold that the Firm's representation of the City in connection with the 1972-73 bond issue gave rise to a potential conflict in the event information relating to bond counsel advice became relevant to some later contest between the City and CEI. We hold that this potential for conflict should have been and was known to the Firm at the time it agreed to represent the City. We hold that the Firm should have recognized that absent express waiver by the City, the Firm might be precluded from representing CEI in any proceeding in which information supplied in the courts of the bond counseling could become relevant.

(3) We hold that notwithstanding a recognition by the City and the Firm that there were existing controversies between the City and CEI at the time the Firm undertook the 1972-73 bond representation for the City, there was no full disclosure of possible future effect in the event of a conflict; nor was there consent of the client (the City) that the Firm represent CEI and not the City in the event of such conflict as required by Disciplinary Rule 5-101(A).

(4) We charge that there was an *actual* transmittal of material relating to the Firm's advice to the City in connection with the 1972-73 bond issue to attorneys within the Firm representing the interest of CEI in adversary proceedings, specifically, the Lansdale letter to Hauser of June 17, 1974 and the attached Brueckel memorandum to Lansdale of May 21, 1974.

(5) We hold that it was CEI which introduced into these proceedings the issue of the City's financial position and thus placed before us information also relevant to advice rendered by the Firm as bond counsel for the City.*

(6) We hold that Ethical Canon 5-16 is applicable to the present situation and that it requires the suspension of the Firm in accordance with the provisions of the Commission's Rule 2-713(c)(2).

*See Prehearing Fact Brief of CEI of December 1, 1975, Part D.

## VI. CERTIFICATION

At the hearing, both CEI and the City requested certification in the event our decision rejected the position each respectively espoused. The Board indicated it would be inclined to certify the question in the event charges were preferred and another presiding officer reported to this Board that the charges should be upheld. The City has argued that failure to grant a disqualification motion upon which it ultimately may prevail constitutes prejudicial error which could nullify the entire proceedings now in progress. While we need not decide that question at this time, we find preliminary merit to the City's position. The only caveat we interpose is that it was the City which is responsible for such delay that now exists in the resolution of this motion by failing to take timely action over a period of months. Thus, it seems plain that the City is in no position to complain with respect to the participation of Squire, Sanders & Dempsey during the interval required for the proper disposition of this motion.

Accordingly, neither Rule 2.713, nor equitable consideration require or permit the suspension of Squire, Sanders & Dempsey until such time as the presiding officer (or Atomic Safety and Licensing Board) which will review and pass upon the charges now filed advises us with respect to their validity.

The dissenting opinion of Mr. Smith is attached.

Suspension as requested by the City's Motion hereby is granted but not effective until a report has been received from another presiding officer as required by Rule 2.713.

ATOMIC SAFETY AND
LICENSING BOARD

John M. Frysiak, Member

Douglas V. Rigler, Chairman

Dated at Bethesda, Maryland
this 19th day of January, 1976.

EXHIBIT A TO
MEMORANDUM SUSPENDING COUNSEL FROM
FURTHER PARTICIPATION AS ATTORNEY IN THESE
PROCEEDINGS

Squire, Sanders & Dempsey, Counselors at Law
1800 Union Commerce Building
Cleveland, Ohio 44115

Area Code 216
696-9200

In Washington, D. C.:
Cox, Langford & Brown
21 Dupont Circle NW
Washington, D.C. 20036

June 17, 1974

Mr. Donald H. Hauser
Corporate Solicitor
The Cleveland Electric
Illuminating Company
P. O. Box 5000
Cleveland, Ohio 44101

Dear Don:

I enclose herewith a memorandum written to me by John Brueckel under date of May 21, 1974, concerning the problem of contracting with the MELP rather than the City of Cleveland.

I do not know why I neglected to send this on to you at the time although I did call you on the telephone after my conversation with Mr. Brueckel, which preceded this memorandum.

I might add I have talked to Dan O'Loughlin about this same problem and he concurs in the memorandum.

Sincerely,

John Lansdale

JL:er
Enclosure

## EXHIBIT B TO MEMORANDUM SUSPENDING COUNSEL FROM FURTHER PARTICIPATION AS ATTORNEY IN THESE PROCEEDINGS

MEMORANDUM May 21, 1974

TO: John Lansdale
FROM: J. B. Brueckel
CC: D. J. O'Loughlin
M. E. Knopf

This memorandum has reference to the proposed agreement between the City of Cleveland and CEI concerning the supply to the City of electricity generated by nuclear power plants, and the understood desire of CEI is to have the agreement highlight the Municipal Light and Power Plant and System (MELP) to the maximum possible degree.

At your request, I suggest that you take into consideration the following:

1. As you are fully aware, MELP is not an independent arm of the City and does not enjoy even the "autonomous" status of CTS. In point of fact, the Charter of the City makes provision for a department of public utilities to be headed by a director and authorizes the establishment of divisions thereof, with a commissioner or chief to be in charge of each division. Pursuant to this Charter authorization, Section 1.2501 of the Codified Ordinances of the City establishes a Division of Light and Power in the Department of Public Utilities to be administered and controlled by the Commissioner of Light and Power subject to the supervision and direction of the Director of Public Utilities.

2. To a certain extent at least, you may have to give attention to prior practice that has been followed in preparing contracts to which the City has been the party on behalf of MELP. I am not familiar with the forms of these contracts, but I do call attention to the attached ordinances giving contracting authority to the Director of the Department. In this connection, it seems to me that some of these ordinances are helpful in identifying the contract as being for the Division of Light and Power of the Department of Public Utilities, and this forms the basis for the suggestion made in a later portion of this memorandum.

3. There is some historical evidence for the proposition that the Council at least regards MELP as being an enterprise which should stand on its own feet, and I regard this also as being helpful. Thus, when the ordinance authorizing the electric financing currently being offered for sale was wending its way through the Council, there was strong opposition to having the City purchase the issue internally since this was somehow regarded as placing a burden on the taxpayer. In addition, the attached Ordinance No. 1054-72 seems to establish a sort of debtor-creditor relationship.

On the basis of all of the foregoing, I would suggest that the agreement be between CEI and "the City, acting on behalf of its Municipal Electric Light and Power Plant and System (hereinafter referred to as "MELP")" and that a substantial number of references to MELP be made throughout the agreement. Hopefully, this will do the trick.

## DISSENTING MEMORANDUM

I do not agree that 20 CFR 2.713(c) anticipates the procedure followed by the majority in issuing its order suspending Squire, Sanders & Dempsey (the Firm or SS&D) and Mr. Lansdale from these proceedings. We all agree that the Licensing Board, not "another presiding officer", has the responsibility to make findings under 2.713(c) (1) through (5) and, if grounds exist, to issue the Order of Suspension. But the regulation does not permit this action until the attorney, after being charged, has been afforded an opportunity to be heard before another presiding officer. I have no particular authority for this position except the ambiguous language of 2.713(c) and traditional and elemental concepts of due process. The fact that the Licensing Board may be free to change its findings and vacate the order after a report from the second presiding officer does not cure the problem inherent in requiring the charged attorney to defend himself after the Board has already decided.*

Therefore, it would be better to defer a discussion of the merits of City of Cleveland's (City) motion until after the report of the second presiding officer. However, if the second presiding officer agrees with the majority of this Board that the SS&D should be suspended, the matter will apparently be certified without further consideration and the opportunity to comment will have passed.

The City should fail in its Motion to Disqualify the Firm for the following reasons:

1. Applicant, Cleveland Electric Illuminating Company (CEI), is without fault in this controversy and it would be unfair to interfere with its choice of legal counsel now.

2. There has been no showing that City will be injured in its legitimate interests by the continued participation of the firm. City has been represented by its own competent counsel throughout.

3. The only arguable adverse effect of the continued participation of SS&D would be that the firm might adduce more information because of its familiarity with City's affairs than if it were a stranger to City. This information, if any, would be of a public, nonconfidential nature and would be subject to the rules of evidence.

4. City is not without fault. By employing the Firm knowingly in the face of a conflict, City materially contributed to the situation about which it now complains.

---

*I do not suggest that the Board has treated SS&D unfairly. The Firm was given an opportunity to be heard before the Order issued. Section 2.713 is unworkable and should be modified. Referral to the second presiding officer should be within the discretion of the first presiding officer to avoid redundant hearings. The presiding officer hearing the evidence should make the initial determination.

5. City's motion is untimely. It was filed without briefs on November 20, 1975. City was directly informed of SS&D's participation when City lawyers met with Mr. Lansdale on December 13, 1973.

The foregoing considerations are equitable in nature. If the record were to demonstrate that the firm violated the Disciplinary Rules of the Code of Professional Responsibility, or had clearly acted counter to the aspirations of the Code's Ethical Considerations, suspension would be required despite inequities to the client. This would simply be the necessary price of preserving our legal system and maintaining the public's confidence in the rule of law. This is not the case presented here. In retrospect, SS&D may have erred in entering into a dual representation where the potential for conflict was patent, but it did so in good faith and its actions seemed reasonable at the time. At least its actions were not so unreasonable as to require suspension, where suspension would also do damage to other ethical principles.

There is, however, a troublesome problem under Canon 9 of the Code of Professional Responsibility which canon mandates that a lawyer should avoid even the appearance of professional impropriety. Because of SS&D's dual representation of CEI and the City, and because of the complexity of the factual setting, the appearance of impropriety exists here. But, according to the limited record before us, this appearance is more illusory than real. It is not of sufficient substance to outweigh the requirement of Ethical Consideration 9-2 that a lawyer's duty to his client or to the public should never be subordinate merely because the full discharge of his obligation may be misunderstood.

## FACTUAL BACKGROUND

My view of the controlling facts differs in some respects from the view of the majority.

This is an antitrust hearing. CEI and others have applied for licenses in Northern Ohio. CEI and City are direct competitors for electric load in Cleveland. City alleges that CEI is attempting to destroy its electric system. The financial vigor of the City's electric system is germane because it relates to its viability, and its capacity to compete with CEI and to participate in coordination and access to nuclear power.

SS&D is the largest law firm in Ohio. The 1974 Martindale-Hubbell Law Directory lists more than 140 partners and associates. The firm has represented CEI for 65 years as general outside counsel. This has been a continuous and close relationship. Mr. Lansdale has been a director for many years. Mr. Besse, a senior partner, was President, then Chief Executive Officer, and is now a director of CEI. As a part of his firm's continuous relationship with CEI, it was natural for Mr. Lansdale to represent the company in this proceeding and he actively did so

very early. However, he has seldom appeared at the evidentiary hearings. CEI also has other, very competent counsel, Shaw, Pittman, Potts and Trowbridge, for this litigation but this firm also represents the joined applicants.

SS&D also has a very large municipal bond department; probably the largest in the United States. The firm does almost all the municipal bond work in Ohio and it has been principally as bond counsel that City has employed SS&D. City's relationship with SS&D also extends back 65 years, but unlike CEI, City employs SS&D when needed for a specific project. Despite the serious charges by City against SS&D, it continues today to employ the Firm and will do so in the near future. City does not seem to claim that its current employment of SS&D is a conflict and this is not asserted as a basis for its motion.

This apparent contradiction is explained by the fact that, in addition to being very competent in municipal bond law, SS&D has prestige in the bond market. For practical purposes, City must use SS&D to sell bonds on favorable terms. The Firm's imprimatur assures the bond market that the issue has underlying legal validity.

Most of SS&D's work for City has had no direct relevance to this controversy although City claims that the years of familiarity gained in the conduct of its affairs is in itself an impermissible conflict.

The majority of the Board examined three incidents which have a bearing upon the motion to disqualify. All relate to City electric system bond issues.

The majority regards the first incident relating to the 1963 electric and light plant mortgage bond issue to be too remote in time to be meaningful. I agree.

The second incident pertains to the episode described in Exhibit E attached to City's Brief in support of its motion dated December 1, 1975. Mr. Brueckel of SS&D who later represented City in the 1972-73 bond issue, discussed City electric plant revenue bonds with Mr. Lansdale. It seems that in October 1966, SS&D was preparing, on behalf of CEI, to give City advice on electric rates. This advice, if followed, would have raised City's electric rates. Therefore, Mr. Brueckel participated with his firm in acting for CEI against the competitive interest of City's electric system. This is not surprising. CEI has been SS&D's primary client throughout. While the incident demonstrates the potential for conflict, it should not be the basis for suspension now. We should not suspend an attorney from practicing before this Commission unless there is a nexus between the alleged misconduct and this proceeding. This incident was three or four years before the instant applications were filed. Moreover, it has not been established that Mr. Brueckel had a conflicting and fiduciary relationship with City in 1966.

The so-called 1972-73 municipal electric plant bond issue is the third incident considered by the majority and is the event which has given rise to the more serious appearance of impropriety.

In 1971, the City decided to issue one year anticipatory notes for two million dollars pending the $9.8 million bond issue of 1972–73. According to the only evidence directly on the point, particularly the affidavit of Mr. Holton who was then a City fiscal officer (Lansdale Answer Brief December 12, 1975), SS&D had advised the City that it was reluctant to undertake its customary bond counsel service because of the pending conflict between City and CEI. City therefore retained the Wood firm of New York which firm then prepared the 1971 anticipatory note ordinance. Because the Wood firm was not familiar with Ohio law, the City Law Department and Utility Department decided not to continue to employ that firm for the 1972-73 bond issue.* But by June 1972, City officials had also come to the conclusion that their controversy with CEI would result in a conflict of interest if SS&D were to represent both parties. Whereupon Mr. Hollington, then City Law Director, advised SS&D of this fact (O'Loughlin affidavit, Lansdale Answer Brief) and requested SS&D to recommend other bond counsel. Mr. O'Loughlin of SS&D recommended the Bricker firm of Columbus or the Peck firm of Cincinnati, especially the Bricker firm.

The Bricker firm was unable to handle the issue. The Peck firm was not requested to handle it. Mr. Hollington returned to SS&D with the request that SS&D handle the issue notwithstanding the conflict. SS&D, still concerned, requested and received permission from CEI to handle the issue. SS&D also requested and received explicit and strong written requests from the Law Director and Utilities Director.

At this point, the mental attitudes of the parties should be considered. City believes that it "must and does totally rely" upon SS&D, "depends almost exclusively" upon the firm and its need for SS&D is "critical".† Mr. Davis, the incumbent Cleveland Law Director describes City's plight at Tr. 2942 by stating, "Where else could they go? The money was needed. We went back to the embraces of Squire, Sanders and Dempsey."

The evidentiary record to date establishes that in 1972 the City electric plant was in serious need of money. Without the $9.8 million bond issue, the electric system might have failed. This was public knowledge. Faced with their dissatisfaction with the Wood firm and the refusal of the Bricker firm, City was desperate.

If the city fathers recognized that SS&D was essential to the survival of the light plant, it must also be assumed that the Firm must have known of its own importance.

Further, SS&D necessarily knew that, by virtue of its monopoly in the field and its long relationship with City, it shared the responsibility for City's dependence upon the Firm. To have deserted the City at that time in favor of

*The Wood firm was later reemployed in connection with this issue and in 1974 it prepared the prospectus.

†Pages 3, 16, and 35 of City's Brief of December 1.

City's adversary would raise other ethical problems especially under Canon 1, EC 1-1, Canon 2, EC 2-26,* 2-27 and 2-31 and Canon 7, EC 7-1. It may reasonably be argued that SS&D undertook the 1972-73 bond issue as a civic and professional responsibility, albeit well-paid. The evidence permits this inference at least as well as any other.

On this point, City's counsel, Mr. Davis, states that:

> ...[T]here is an ethical duty upon a lawyer not to leave his client in a position of jeopardy, when there has been a continuing representation, not to drop it, at a point where the client's interest will be hurt. [Tr. 2493].

The same consideration must also apply to SS&D's duty to CEI. Mr. Davis also concedes that dual representation of both clients is not per se an impermissible conflict. Tr. 2482-88.

Moreover, if CEI and SS&D had agreed to withhold the Firm's services from City in order to preserve CEI's right to its regular legal counsel, that act could have had the very anticompetitive effect City now charges CEI with intending. Nevertheless, there was a direct and substantial conflict of interest. Were it not for unfairness to CEI, suspension of the Firm would be appropriate under Canon 9.

In measuring the equitable considerations in favor of permitting SS&D to continue in the case, it should also be noted that City, knowing SS&D was legal counsel to CEI invaded the attorney-client relationship between CEI and SS&D for its own purposes. By demanding SS&D's aid, City interfered with CEI's right to counsel. City now seeks to bootstrap its ethically questionable conduct into a litigative advantage in this proceeding.

In finding the SS&D is in violation of EC 5-16, the majority finds that SS&D's advice to the City with respect to the implications of the conflict was insufficiently explicit. I do not agree with this assessment. The conflict was obvious. It was the City who first raised the issue. There was no need to explain to City's skilled lawyers what they already knew. Nevertheless, SS&D did explain their concern about the conflict. (Holton Affidavit, *supra.*) To explain to the City the details of their case in this proceeding would have raised still further ethical problems if, in so doing, SS&D violated CEI's attorney-client privilege. In addition, EC 5-16 appears to provide for the opportunity for the client to make an informed judgment as to whether it wishes to employ the lawyer. Therefore, its application to the proceeding is remote because there was never any thought

*EC 2-26. A lawyer is under no obligation to act as adviser or advocate for every person who may wish to become his client; but in furtherance of the objective of the bar to make legal services fully available, a lawyer should not lightly decline proffered employment. The fulfillment of this objective requires acceptance by a lawyer of his share of tendered employment which may be unattractive both to him and the bar generally.

that City would employ SS&D in this litigation. At that time, it had already retained its present counsel, and nothing has interfered with that relationship.

In evaluating the propriety of SS&D's conduct, I do not depend upon the fact that the information it absorbed from City was public and nonconfidential. An attorney should not use any advantage gained in representing a client. *Marketti v. Fitzsimmons,* 373 F. Supp. 637 (W.D. Wisc. 1974) is correctly applied by the majority to the extent that it relates to nonconfidential information. But the fact is the information *was* public and was not confidential. As bond counsel lawyers have an obligation to the public. There is a requirement imposed by the Securities and Exchange Commission upon bond counsel to develop and report in a prospectus all information relevant to the proposed security, even if that information is adverse to the interests of the client. Therefore, there could be no binding attorney-client privilege of secrecy between City and SS&D in connection with the bond issue.* This circumstance warrants consideration because it demonstrates that little proximate injury, if any, will flow from SS&D's continued participation, notwithstanding the issue of propriety.

I share the concern of the majority that Mr. Brueckel's affidavit appears to be wanting in candor. Even assuming, he overlooked for the moment the fact that Mr. Lansdale is a CEI director, the affidavit was deceptively narrow because he clearly did confer with a CEI representative. With respect to Mr. Brueckel's memorandum of May 21, 1974 (Exhibits A and B attached to the Board's order), his advice was sought probably because he had been City's bond attorney. This was improper, but not sufficient to result in disqualification considering all the circumstances. Superficially, it may appear that he and Mr. Lansdale were exploring a possible advantage to CEI in a proposed contract with City. But, within the context of this case as it is developing, CEI was properly exploring ways to settle the dispute and SS&D was trying to determine how a feasible contract could be drawn. A contract with City Council might not be workable. Mr. Brueckel appears to be offering a solution in the interest of resolving a mutual problem. His purpose was probably benign. Even so, it was *not* within his province to help the City without its informed consent. Mr. Brueckel has not yet had an opportunity to explain this situation, and the record is incomplete in this respect.

If it were established that SS&D is not making a full and candid disclosure before the Commission in defending against the Motion to Disqualify, my opinion as to the need for disqualification would be affected.

*Even though the Wood firm signed the prospectus, SS&D probably contributed to it.

As lawyers, all of us have an obligation to preserve the integrity of the legal system and to maintain public confidence in our processes. If by mistake, or carelessness, or even by reasonable conduct, SS&D contributed to a substantial ethical problem, it must accept the consequences, and suspension might be appropriate. But we also have an obligation not to do other damage to the legal system in the cause of legal ethics. In this case, the legal profession might be wise to be guided by the leading tenet of the medical profession. Above all, do no harm.*

Ivan W Smith, Member

Dated at Bethesda, Maryland
this 19th day of January 1976.

*" [A]bstain from whatever is deleterious and mischievous " *The Oath of Hippocrates.*

ATTACHMENT 2

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Elizabeth S. Bowers, Chairman
Edward Luton, Member
Thomas W. Reilly, Member

| | |
|---|---|
| In the Matter of | Docket Nos. 50-346A<br>50-500A<br>50-501A |
| THE TOLEDO EDISON COMPANY and<br>THE CLEVELAND ELECTRIC<br>ILLUMINATING COMPANY | |
| (Davis-Besse Nuclear Power Station,<br>Units 1, 2 and 3) | |
| THE CLEVELAND ELECTRIC<br>ILLUMINATING COMPANY, ET AL. | Docket Nos. 50-440A<br>50-441A |
| (Perry Nuclear Power Plant,<br>Units 1 and 2) | February 24, 1976 |

## BOARD RULING IN SPECIAL §2.713 PROCEEDING

This matter comes before this special Atomic Safety and Licensing Board pursuant to the provisions of 10 CFR §2.713(c) of the Commission's Rules of Practice, which requires that "(b)efore any person is suspended or barred from participation as an attorney in a proceeding, charges shall be preferred by the presiding officer against such person and he shall be afforded an opportunity to be heard thereon before another presiding officer."

The referring Atomic Safety and Licensing Board issued a "Memorandum And Order . . . Suspending Counsel From Further Participation as Attorney In These Proceedings" on January 19, 1976, stating the charges and the grounds therefor. On the same date, after the issuance of said Order, this (special) Board was appointed by the Acting Chairman of the Atomic Safety and Licensing Board Panel to conduct the referral hearing prescribed by §2.713(c).

* * * * *

The charged party herein is the law firm of Squire, Sanders & Dempsey (SS&D or the firm), together with its Washington Office, Cox, Langford & Brown, which the City of Cleveland (the City) moved to disqualify or suspend from continuing to appear and represent the applicant Cleveland Electric Illuminating Company (CEI), for whom the firm has been general counsel for over 65 years, and to prohibit said firm from aiding or advising any new counsel for applicant CEI, or any other applicant in the subject NRC antitrust proceeding. The charge and motion to disqualify are based upon an alleged "dual representation" and conflict of interests situation, in purported violation of both the American Bar Association's (ABA) Code of Professional Responsibility and the Commission's Rules of Practice, specifically, 10 CFR §2.713(c)(2).

* * * * *

This Board has studied the pleadings, the briefs of counsel, the transcript of the December 31, 1975 oral argument, the pertinent exhibits, the ABA's Code of Professional Responsibility (including the Canons of Ethics, Ethical Considerations and Disciplinary Rules), and the January 19 "Memorandum and Order of the Board Suspending Counsel . . ." (both majority and dissenting opinions). Having heard additional oral argument on February 3, 1976, and having reviewed the memoranda submitted by the parties, we find we are in agreement with the conclusion set forth in the earlier dissenting opinion attached to the *Davis-Besse* hearing board's January 19 "Order . . . Suspending Counsel . . . ."[1] that the City of Cleveland (City) should fail in its Motion to Disqualify. We believe it would not serve any useful purpose, nor assist the parties or subsequent appellate bodies, to imaginatively re-state in our own style what the dissenter has already succinctly expressed with ample factual references.[2]

However, we would like to briefly address two legal points that have not been touched upon by either the original majority or the dissent. The first point

[1] However, we wholeheartedly agree with the majority's footnote suggestion (p. 239, *supra*) that 10 CFR §2.713(c) has urgent need of revision. Clearly, there is no need, or practical purpose to be served, by referring to another presiding officer the situations under (c)(1) and (2) wherein the original presiding officer is in *no* way the charging or complaining party. Obviously, the referral requirement was designed to cover the typical "contemptuous" conduct situation wherein the offending attorney so antagonizes the original presiding officer that his adjudication of a collateral "contempt" charge might seem to be less than objective or impartial.

[2] Additionally, for a point-by-point factual rebuttal of the six grounds used by the majority as the basis for its charges, which rebuttal we find credible and convincing, see SS&D's Trial Brief (Feb. 2, 1976), at 10-22. (See also Feb. 3 oral argument of Gallagher on behalf of SS&D, Tr. 4397-4425, and Feb. 9 "Index . . . Referencing Exhibits Referred To In Argument.")

is the very limited jurisdiction of an Atomic Safety & Licensing Board (ASLB, hearing board or licensing board) in lawyer misconduct matters, when compared with the jurisdiction and prerogatives of a bar association grievance committee or the courts. The second point is the questionable applicability of the ABA's "multiple representation" canons to an NRC proceeding in which there has been no multiple representation or attempted multiple representation by the charged law firm in *that* proceeding.

## JURISDICTION OF LICENSING BOARDS VS. BAR DISCIPLINARY BODIES

The very general, almost impermissibly vague, language of §2.713(c)(2) offers a tempting quagmire for legal interpretation by any reviewing body, administrative or judicial, in attempting to compare certain precise conduct against a prescribed general standard, albeit the language decrees a basic standard of professional conduct with which no one could disagree. The problem is further compounded when one realizes that the reviewing authority here is not a court of general jurisdiction and is not vested by law with the ultimate authority for overseeing all unprofessional conduct that might conceivably come within the verbatim description "conform to the standards of conduct required in the courts of the United States." Some such conduct might have to be referred to legally designated professional disciplinary bodies for appropriate investigation and action.

Although there are some examples of prohibited conduct before an administrative hearing board clearly within the proscriptions of (c)(2) and quite appropriate for an NRC Atomic Safety and Licensing Board to deal with, there is a vast area of equally unacceptable conduct that is *not* within the jurisdiction of such a board to entertain and rule upon, i.e., such conduct, though professionally unacceptable, is simply not within the jurisdiction of an ASLB to adjudicate and rule upon. This latter category is the area wherein either bar association grievance committees, bar admission authorities, or the courts, themselves, have the sole jurisdiction to investigate and take remedial/ disciplinary action.

To be sure, even without subsections (c)(3), (4) and (5), it would clearly be appropriate for a hearing board (presiding officer) acting under (c)(2) to suspend an attorney practicing before it in a license proceeding, when that attorney persistently shouts at the presiding officer, refuses to obey the board's procedural rulings and generally (and continuously) disrupts the orderly course of the proceeding.

Conversely, an attorney who allegedly charges unreasonably high or unreasonably low fees (including the fee for the license proceeding in issue) or who occasionally mishandles or mis-deposits escrow funds, would be facing serious charges—but *not* before an Atomic Safety and Licensing Board. The

legal profession's official disciplinary bodies would be the appropriate parties to investigate and hear such charges, i.e., they, and not the ASLB, would have jurisdiction.

We point out these two extreme situations not to indicate that the present facts easily fit either one, but merely to illustrate that the language of §2.713(c)(2) could conceivably encompass both cases, and yet only one of these extreme examples would be within the prerogative of an NRC licensing board (presiding officer) to adjudicate and rule upon. Admittedly, the present case is complicated because it falls somewhere between the two extremes. We believe, however, that as a general rule, if the "avoidance of even the mere *appearance* of professional impropriety" (*cf.* ABA Canon 9) is the gist of the offense charged, the facts then are more appropriate for determination by a bar grievance committee or court than an NRC licensing board. Since the earlier majority seems to throw out the significance of any need for proof of actual injury to the client or specific proof of the passing of confidential, non-public information from one client to another[3] (vs. information already made public and available from other sources),[4] we must conclude that the majority is resting its decision to disqualify on the "mere appearance of impropriety" concept. If such an analysis and conclusion had been rendered by a jurisdictionally-competent bar association grievance committee, we would have no procedural quarrel with it. However, we seriously question a licensing board's jurisdiction to adjudicate "appearance of impropriety" cases.

To put it affirmatively, we believe the general language "...failed to conform to the standards of conduct required in the courts" [§2.713(c)(2)] was intended by the Commission to relate solely to unprofessional conduct directly interfering with the conduct of the Commission's license proceedings, and was never intended to open the Pandora's Box of Commission review over all professional conduct or the intricacies of past lawyer-client relationships, particularly where there are already professional grievance committees and courts that have the unquestioned jurisdiction and expertise to explore such

[3] See majority opinion, at p. 245, *supra*, January 19 Memorandum and Order.

[4] For statutes requiring disclosure of adverse information that might affect the value of bonds or other securities offered for public sale, see Securities Act of 1933, 15 U.S.C. 77, e.g., §§77j, 77k, 77q, 77nnn(c), 77www; and Securities Exchange Act of 1934, 15 U.S.C. 78, e.g., §§78b, 78i(a)(4), 78l(b)(1), 78m, 78r. See also *Fischer* v. Kletz (D.C., N.Y. 1967), 266 F. Supp. 180, and *SEC* v. *Frank* (2 Cir. 1968), 388 F.2d 486, on the affirmative duty of disclosure by CPA's and lawyers. On Congressional purpose of Federal securities laws to protect and inform investors, including the uninformed, the ignorant and the gullible, see *Surowitz* v. *Hilton Hotels Corp.* (7 Cir. 1965), 342 F.2d 596, rev'd. on other grds. 383 U.S. 363; *Thill Securities Corp.* v. *N.Y. Stock Exch.* (7 Cir. 1970), 433 F.2d 264; and *Associated Securities Corp.* v. *SEC* (10 Cir. 1961), 293 F.2d 738. The statutes and policy thus effectively prohibit a lawyer serving as "bond counsel" from keeping confidential any adverse information he might obtain (and otherwise keep confidential under the usual lawyer-client relationship). The primary fiduciary duty is to the investing public.

"mere appearance of impropriety" relationships, and to fashion a more lasting remedy. We believe the intended emphasis of the Commission's rule is on the presiding officer's power to control the orderly course of an NRC public administrative hearing. It is not, we believe, a general, supervisory role over all attorneys practicing before it to see that complete equity is always being done with their clients, and that all ABA canons are scrupulously being adhered to, even in behind-the-scenes multiple relationships,[5] involving the interplay of other transactions, other clients, and other non-NRC litigation.

Having said this, we do not wish to be misquoted as finding that there are *no* conflict-of-interest cases that would justify a presiding officer's invocation of the suspension provisions of §2.713(c)(2). Certainly, for example, if an attorney has actively represented an Intervenor throughout half an evidentiary proceeding (preparing witnesses, reviewing testimony and strategy) and then he suddenly appears at the hearing as the new trial counsel for the Applicant (the Intervenor's *de facto* adversary), the case would cry out for barring such attorney from further participation.

## WHERE IS THE "DUAL REPRESENTATION" AND WHAT IS THE ABA REMEDY?

Going beyond the threshold jurisdiction question, we are further bothered by the questionable applicability of "dual representation" canons to the facts of the present case, wherein no dual representation exists nor has it ever been attempted, in either this NRC proceeding nor in any other earlier "substantially related" proceeding or transaction.[6]

As stated in the January 19 majority opinion (at p. 238, *supra*): "The essence of the City's position . . . is that dual representation by the Firm places it in a conflict position in violation of standards of conduct required in the courts of the United States." The majority specifically ties its ruling to ABA Ethical Consideration EC 5-16[7] and Disciplinary Rules DR 5-101 and 5-105(B), (C).[8] EC 5-16 refers to "those instances in which a lawyer is justified in

[5] If the only nexus needed to trigger the Commission's review of a lawyer's conformance to all ABA Canons of Ethics is merely his appearance in one Commission proceeding, ASLB's might next prepare themselves to hear cases on the alleged unreasonableness of fees being charged by attorneys appearing before us. (*Cf.* ABA Canons EC 2-17 thru EC 2-25.)

[6] For cases on the "substantial relationship" requirement for true dual representation conflicts, see SS&D's Answer Brief of Lansdale, Dec. 12, 1975, at 14-18, and SS&D Trial Brief, Feb. 2, 1976, at 6-8.

[7] Majority opinion, at pp. 244, 248, *supra*.

[8] Majority opinion, at pp. 244, 248, *supra*. ABA DR 5-101(A) requires consent of the client to representation after full disclosure of a situation wherein the lawyer's own "financial or business interests" might impair his professional judgment. DR 5-101(B) is irrelevant to the present dispute. DR 5-105(B) refers to the continuation of "multiple employment," and DR 5-105(C) to representation of "multiple clients."

representing two or more clients having differing interests," and gives notice requirements in "common representation" situations. However, we have great difficulty in seeing how this section is appropriately applied to the facts in issue, particularly after reviewing the several other canons in the entire ABA "Interests of Multiple Clients" section. The general tenor of that entire section[9] seems to be directed to a situation where a lawyer is asked to represent "multiple clients" in the same litigation or the same transaction, and here, insofar as the ASLB hearing is concerned, the subject law firm has never represented, or offered to represent, the City in this NRC proceeding. The same consideration applies to DR 5-105(B) and (C). We are fully aware that the City claims concern about possible unspecified information obtained by the firm through its earlier representation of both the City and CEI in separate matters, other transactions having nothing to do with this NRC proceeding, mainly via the firm's recent service as the City's "bond counsel."[10] But representing CEI in antitrust and

[9] See ABA EC 5-14 thru EC 5-20.

[10] We are also aware that the nub of the City's complaint is its suspicion that the law firm in question might be giving an "edge" to the City's *de facto* adversary in this proceeding by transmitting "inside" information to CEI about the City's operations, capabilities or condition, which information *may* have been obtained from the City in the firm's earlier lawyer-client relationship with the City. However, no such non-public information has been specified and the record discloses no such breaches of confidence, although the City argues that anytime SS&D gave legal advice to CEI that was not completely advantageous to the City—that constituted a "breach of trust" to the City. Furthermore, the majority opinion avoids resting its charges on any such incident or specific information leak. Rather the Board's charges rest solely on an alleged general violation of specific ABA Ethical Considerations and Disciplinary Rules aimed at "dual representation" or "multiple representation" lawyer-client responsibilities. Even if the sanction of prohibition from legal representation of the *non*-complaining party were authorized by the ABA rules referred to (it is *not*), it seems that before destroying such valuable representation, on such a potentially damaging charge, the Board should have required hard evidence of injury-in-fact or at least evidence of specific "confidences" that were breached. We do not consider information already made public because required by law to be given public notice (e.g., financial capacity of the City when it offers bonds for public sale) as any evidence of a breach of trust. Nor do we consider legal advice given to CEI that happened to be adverse to positions the City would like to see taken, to be "breaches of duty" to the City.

It follows that we are in complete disagreement with the earlier majority's view that a *licensing board* can take such harsh action without such specific evidence and that "as a matter of law . . . it does not matter whether the information exchanged can be proved or demonstrated to have originated from confidential materials supplied by the client." (Majority, at p. 245, *supra*). Likewise, the District Court statement cited by the majority (at p. 245, *supra*), that "public confidence in lawyers generally would be impeded if we were to permit the Firm to prevail on its argument that information passed from one client to another was non-confidential in nature", would be unassailable coming from a District Court or a bar association grievance committee in a true "switching sides" case, but what we have here is an Atomic Safety & Licensing Board sitting in judgment on non-nuclear, non-licensing matters that occurred years ago in the State of Ohio—not only non-NRC

(Footnote continued on next page.)

other matters (as general counsel of CEI), at the same time SS&D represents the City in a non-related bond matter, is *not* "dual" representation.

It is important to note that in ABA EC 5-19, the ABA solution to representing several clients where the lawyer believes their interests are not actually or potentially differing but the client disagrees, is to withdraw from representation of *that* client (i.e., the City).[11] The dissatisfied client is given no right to demand that the lawyer cease representing the satisfied client. But the firm has never represented the City in this NRC proceeding, and the Canon does not suggest that the firm must withdraw its representation from *both* of the so-called "multiple clients" nor from the one that is satisfied with, and desires, the firm's continued representation. So, we are faced with a situation where there is *no* multiple representation in the NRC proceeding,[12] on the one hand, and on the other hand, the City persistently declines to avail itself of its option to terminate usage of the firm in its non-NRC transactions (bond preparation).

As pointed out in the dissent (p. 253, *supra*), this is the largest law firm in the State of Ohio,[13] and it has been representing both parties, as well as a multitude of other clients, in a variety of transactions for 65 years. It is to be expected that many of their former and present clients may at one time or another institute legal action against other former or present clients. By extension of the rationale of the earlier majority, and its strained interpretation of the "multiple representation" ABA Canons, this firm would be prohibited from representing *either* party in such subsequent conflicts because at some time in the past the firm had represented *both,* in one form or another and in different capacities, subject only to the caveat that the nonrepresented party object with a claim of "multiple representation." This flies in the face of EC 5-20, which shows the solution to be withdrawal of representation from *only* the complaining party. It also flies in the face of the basic factual distinction that such canons obviously apply only where the lawyer is now attempting to

(Footnote continued)
matters, but clearly non-Federal matters. The only Federal connection is the *penalty*—non-participation in a Federal proceeding—if this limited Federal agency determines that the interplay of these distant non-Federal transactions were, in its opinion, unethically handled.

[11] See also EC 5-16, the basic section charged, wherein it states: "... it is nevertheless essential that each client be given the opportunity to evaluate *his* need for representation free of any potential conflict and to obtain other counsel *if he so desires.*" [Emphasis added.]

[12] See also the first paragraph, first page of the majority's decision which states: "The basis for this Motion is an asserted conflict of interest arising from the Firm's *prior* dual representation of CEI and the City and its current representation of CEI in these proceedings." (Emphasis added.) See also the majority's reference (slip op., at 8) to three specific past incidents as being the factual basis for the claimed improper "dual representation" charge— all three occurred years ago (1963, 1972 and 1966) in the State of Ohio, and none involved an NRC proceeding.

[13] 180 lawyers in 1975; City's Brief in Support of Motion to Disqualify, Nov. 20, 1975, at 2.

represent both clients in substantially the *same* litigation or proceeding or has switched from one side to another in the same proceeding, which has never been the case in this NRC proceeding.[14] (And to the extent that the alleged dual or multiple representation conflict occurred earlier in a non-NRC setting, the jurisdiction flies from NRC and returns to the State of Ohio bar disciplinary authorities.)

## FINDING AND CONCLUSION

We find no evidence of unethical conduct by SS&D in the record before us. The City should be referred to the bar disciplinary authorities in the State of Ohio if it wishes to further plead and prove its claim of alleged unethical conduct. CEI should be permitted to retain the legal counsel of its choice[15] in

[14] We find the federal court cases cited in the City's brief relating to lawyers "switching sides" in litigation to be inapposite to the facts of the present case. (City Atty. Davis admits they are different, oral arg., Dec. 31, 1975, tr. 2482.) There was never any attempt by SS&D to represent the City in this NRC proceeding nor had the firm ever represented the City before in any substantially similar litigation involving both parties as adversaries (CEI and the City). Furthermore, we find surprising the City's complaint that SS&D applied "pressure" and "threats" to withdraw from representing the City in its bond matters. Not only would such withdrawal end the "dual representation" alleged, but it is exactly the solution the ABA recommends for true dual representation cases wherein one client complains about the situation—the lawyer is advised to withdraw his services *from the complaining client*. Likewise, the "waiver" and "consent" requirements clearly apply to the continued representation of the possible complaining client. Without such consent and waiver the lawyer may not continue to represent that client. (ABA EC 5-19.) Nowhere is there any authority for the proposition that the disgruntled client may dictate what *other* client the lawyer may represent. Likewise, the "full disclosure" canons have no applicability here, because the record clearly shows that the City (including its law department and law director) had always known that SS&D was the general counsel for CEI, and had always acted as such for 65 years, whereas the City was only the *ad hoc* "client" of SS&D just for the City's occasional bond work.

[15] Not only is SS&D the counsel of CEI's choice for this proceeding, but SS&D has been CEI's general counsel for 65 years. (Dec. 31, 1975 oral argument, SS&D atty. Gallagher, tr. 2527; Lansdale Answer Brief, Dec. 12, 1975, 2, 21-22.) Over the same period, SS&D has rendered legal services to the City, but always on a limited, piece-by-piece ad hoc basis, as have other law firms in Cleveland. (Lansdale Ans., 2-3, 21-22; Dec. 31 arg., admission by City Atty. Davis, tr. 2504.) The City has never had any general retainer with SS&D nor any document or agreement of any kind establishing SS&D as the City's own law firm for general counsel purposes or general legal representation. (Feb. 3 oral arg., tr. 4442-4443, 4262-4263.) The City has its own Law Department of 20-25 attorneys handling the City's routine affairs but it "farms out" individual legal matters to many private law firms, including SS&D. (Dec. 31 arg., City Atty. Davis, tr. 2500, 2508-2509; SS&D atty. Gallagher, tr. 2530-2532, 2534.) By the City's own admission, what SS&D is presently doing for the City (bond counsel) concerns "matters not directly involved in this proceeding," (Dec. 31 arg., Davis, tr. 2486) and, in fact, with the City's knowledge, SS&D has, on numerous occasions over recent years, as part of their general practice, represented other individual

(Footnote continued on next page.)

this limited NRC proceeding. The preferred charges under 10 CFR §2.713 should be DISMISSED and the suspension of counsel VACATED.

It is so ORDERED. (Mr. Luton's separate opinion follows.)

(Special) ATOMIC SAFETY AND LICENSING BOARD

Elizabeth S. Bowers, Chairman

Thomas W. Reilly, Member

Issued at Bethesda, Maryland
this 24th day of February, 1976.

## OPINION

Based upon its review of two specific factual situations, the First Board majority has charged the Law Firm with having "failed to conform to the standards of conduct required in the courts of the United States" (10 CFR §2.713(c)(2)). In my view, it is the task of this Licensing Board to examine the situations relied upon by the First Board, with a view toward determining whether the evidence supports the charge preferred.

The standards of the Code of Professional Responsibility[1] are taken by the First Board as establishing the minimum level of conduct that Section

---

(Footnote continued)
clients in personal injury claims and other actions against the City, without complaint or objection by the City, although now its attorney claims such representation is merely further example of the firm's "misconduct" which was "waived" by the City in the past. (Dec. 31 arg., City Atty. Davis, tr. 2512; see also the list of some fifty matters referred to therein where the City and CEI litigated against each other over many years and in which SS&D always represented CEI—list prepared by SS&D; see also tr. 2537, Ex. B, and Feb. 3 arg., tr. 4441-4443.)

The fact that the City has been successful in forcing several other Cleveland law firms to drop their representation of other individual clients merely because such firms had, at one time or another, handled isolated unrelated legal matters for the City, after the City's threat of a similar "ethics" charge, raises some question of the City's own ethics. (Dec. 31 arg., Gallagher, tr. 2531-2532; Feb. 3 arg., Bd. questions/Reilly, Davis resp., tr. 4443-4444.)

[1] The Code of Professional Responsibility was adopted by the American Bar Association effective January 1, 1970. The Code replaces the former American Bar Association Canons of Ethics.

2.713(c)(2) demands.[2] The First Board has determined that certain Code standards have not been met by the Law Firm. In particular, that Board holds that "Ethical Canon 5-16" is "dispositive," although it also relies "in particular upon the provisions of Disciplinary Rule 5-101 . . . and Disciplinary Rule 5-105(B). . . ." There is no such thing as an "Ethical Canon" under the Code of Professional Responsibility. And since the precise extent and manner of the First Board majority's reliance on DR 5-101 and DR 5-105(B) are not clearly set forth,[3] the particulars of the general Section 2.713(c)(2) charge are not wholly free from doubt. All matters considered, I understand the First Board majority to specify at least violations of DR 5-101(A) and DR 5-105(B) and (C).[4]

---

[2] The Code of Professional Responsibility consists of nine Canons with associated Disciplinary Rules. In the Code's Preliminary Statement, it is explained that:

> The Canons are statements of axiomatic norms, expressing in general terms the standards of professional conduct expected of lawyers in their relationships with the public, with the legal system, and with the legal profession. They embody the general concepts from which the Ethical Consideration and the Disciplinary Rules are derived.
>
> The Ethical Considerations are aspirational in character and represent the objectives toward which every member of the profession should strive. They constitute a body of principles upon which the lawyer can rely for guidance in many specific situations.
>
> The Disciplinary Rules, unlike the Ethical Considerations, are mandatory in character. The Disciplinary Rules state the minimum level of conduct below which no lawyer can fall without being subject to disciplinary action.

[3] In the "Conclusion" section of the First Board majority's opinion, the Board states that it "hereby prefer(s) charges under Rule 2.713(c)(2)." There then follows a statement of six separate *"grounds* for these charges" (my emphasis). Certain of those grounds are stated in terms of "We hold," but, somewhat confusingly, one is stated in terms of "We charge."

[4] DR 5-101: Refusing Employment when the Interests of the Lawyer May Impair His Independent Professional Judgment.

> (A) Except with the consent of his client after full disclosure, a lawyer shall not accept employment if the exercise of his professional judgment on behalf of his client will be or reasonably may be affected by his own financial, business, property, or personal interests.

DR 5-105: Refusing to Accept or Continue Employment if the Interests of Another Client May Impair the Independent Professional Judgment of the Lawyer.

> (B) A lawyer shall not continue multiple employment if the exercise of his independent professional judgment in behalf of a client will be or is likely to be adversely affected by his representation of another client, except to the extent permitted under DR 5-105(c).
>
> (C) In the situations covered by DR 5-105(A) and (B), a lawyer may represent multiple clients if it is obvious that he can adequately represent the interest of each and if each consents to the representation after full disclosure of the possible effect of such representation on the exercise of his independent professional judgment on behalf of each.

## THE FACTS

### The 1966 Situation

In 1966, Mr. Carl White had the responsibility for preparing a so-called Little Hoover Commission report on the City's Municipal Electric Light and Power Plant (MELP) for the City of Cleveland. One of his concerns in this regard was with ways to alleviate the critical situation of the City's General Fund. A matter to be explored in this connection was the possibility that the Fund could be relieved by a reduction in charges by the City electric department to the Fund for street lighting. Certain legal opinions which had been prepared by John Lansdale[5] of Squire, Sanders & Dempsey for the Cleveland Electric Illuminating Company had some relation to this prospect. Essentially, those opinions take the position that the trust indenture under which MELP revenue bonds are issued required that more than nominal payment be made for service rendered to the City; but in the absence of such an indenture provision, service could be rendered to the City for governmental purposes without any charge at all so long as charges to private customers were reasonable. The opinions "suggested that the competitive rates of the Cleveland Electric Illuminating Company could probably be taken as a measure of reasonableness."[6]

Having earlier received this advice from its lawyer, the Cleveland Electric Illuminating Company suggested to Mr. White that he consult Mr. Lansdale about what might be involved in seeking a reduction in charges by the electric department to the General Fund for street lighting. Thus, at Mr. White's request, he and his associate met with Mr. Lansdale and Mr. Brueckel to discuss the substance of these legal opinions. This matter was discussed among the participants and, in addition, Lansdale and Brueckel reviewed a memorandum prepared by White containing White's own thoughts on relieving the General Fund. The memorandum, which was entitled, "Thoughts on Use of Electric Light and Power Plant Utility (MELP) Funds for Alleviation of Critical Situation in General Fund of the City of Cleveland," was seen by Lansdale and Brueckel for the first time at this meeting.[7] The memorandum contained information with respect to the revenues of the light plant, the costs of its services, the dollar amount of its sales to the City, and the charges against the General Fund for such services—all information furnished to John Lansdale and the Firm by Carl White.[8]

---

[5] John Lansdale was the Squire, Sanders & Dempsey partner engaged in the general representation of the Cleveland Electric Illuminating Company. John Brueckel was the Squire, Sanders & Dempsey partner engaged in the representation of the City of Cleveland with respect to its bond work.

[6] City's Exhibit E, memorandum concerning City's Municipal Electric and Power Plant rates.

[7] City's Exhibit E, memorandum, p. 2.

[8] Lansdale affidavit, p. 5.

The First Board majority views this 1966 situation as "discussions covering a 'Little Hoover Commission Report' on MELP relating to general fund assessments for street lighting and payment terms under the trust indenture of MELP revenue bonds [in which] Mr. Lansdale directly consulted with Mr. Brueckel, a Squire, Sanders & Dempsey partner who has been engaged in the representation of the City with respect to its bond work."[9] Further, the First Board majority finds "that in this instance there was specific cross-fertilization within the Firm with respect to matters jointly affecting CEI and the City in which the interests of the parties were or could have been adverse."[10] The term cross-fertilization is used to mean the "transfer of information obtained in connection with providing services to one client to the attorneys handling the affairs of another client."[11]

## THE 1972–1973 SITUATION

In June 1972, Richard D. Hollington, then Law Director of the City of Cleveland, telelphoned Daniel J. O'Loughlin of Squire, Sanders & Dempsey in connection with proposed financing of improvements at the Municipal Light Plant. A sale of bonds to retire outstanding notes was then contemplated by the City. Mr. Hollington stated that because of certain disputes[12] then existing between the City and the Cleveland Electric Illuminating Company, the City would prefer not to retain Squire, Sanders & Dempsey for this bond issue, and he asked O'Loughlin to recommend other Ohio bond counsel. Mr. O'Loughlin suggested either the Bricker, Evatt, Barton & Eckler firm of Columbus, Ohio, or the Peck, Shaffer & Williams firm of Cincinnati, Ohio. Later, O'Loughlin specifically recommended the Bricker firm. Subsequent to this, Hollington telephoned O'Loughlin to say that the Bricker firm had declined the offered employment. Hollington then asked if Squire, Sanders & Dempsey would act as bond counsel with respect to the proposed financing of the municipal system. Because of the continuing disputes between the City and CEI, Mr. O'Loughlin requested Mr. Hollington to obtain the concurrence of Mr. Raymond Kudukis, the City's Utility Department Director, in the proposed representation. In accordance with Mr. O'Loughlin's request, Mr. Hollington asked in writing that

[9] Memorandum and Order of the Board Suspending Counsel from Further Participation as Attorney in These Proceedings, p. 240, *supra*.

[10] *Id.*

[11] Memorandum and Order of the Board, p. 244, *supra*.

[12] According to the evidence, CEI and the City of Cleveland were having serious competitive conflicts by the year 1971. The conflicts involved the marketing practices of each in the solicitation of new customers, and the terms and conditions under which CEI would provide backup electrical power to the Municipal Electric Light and Power Plant. Any interested resident of the area could have become aware of the situation by following the news coverage (Lansdale Affidavit, pp. 7-8).

Squire, Sanders & Dempsey undertake the bond representation and stated the concurrence of Raymond Kudukis in the request.[13]

Mr. John B. Brueckel of Squire, Sanders & Dempsey had primary responsibility for the original legal draftsmanship of the ordinance which authorized the issue of revenue bonds in the sum of $9.8 million for the construction of improvements to the municipal system and for the retirement of indebtedness incurred pursuant to an earlier bond ordinance.[14] At about the same time that Mr. Hollington was importuning Mr. O'Loughlin, as set out above, Howard J. Holton, Assistant Secretary of the Sinking Fund Commission of the City of Cleveland (and thereby responsible for debt service) was requesting Mr. Brueckel to handle the proposed bond issue. Before Brueckel responded to Holton, Mr. Hollington was in contact with Mr. O'Loughlin. Squire, Sanders & Dempsey obtained the consent of the Cleveland Electric Illuminating Company before it undertook the bond representation on behalf of the City of Cleveland. The Cleveland City Council adopted Ordinance No. 2104-72 on July 2, 1973, with respect to which Squire, Sanders & Dempsey had provided services as bond counsel pursuant to the City's request.

With respect to this 1972–1973 situation, the First Board majority holds as follows:

> . . . notwithstanding a recognition by the City and the Firm that there were existing controversies between the City and CEI at the time the Firm undertook the 1972-73 bond representation for the City, there was no full disclosure of possible future effect in the event of a conflict; nor was there consent of the client (the City) that the Firm represent CEI and not the City in the event of such conflict as required by Disciplinary Rule 5-101(A).[15]

Further, the First Board majority holds that two documents "in and of themselves demonstrate an abuse of the Firm's client relationship with the City." These are (1) a June 17, 1974 letter from Mr. Lansdale to Donald Hauser, General Attorney of CEI; and (2) a May 12, 1974 memorandum from Mr. Brueckel to Mr. Lansdale.[16] The June 17 letter encloses the May 12 memorandum and refers to a conversation between Mr. Lansdale and Mr. Brueckel on the subject matter of the memorandum, and states that Mr. Lansdale also conferred with Mr. O'Loughlin about the matter. The memorandum is directed to "the proposed agreement between the City of Cleveland and CEI concerning the supply to the City of electricity generated by nuclear power plants." Brueckel acknowledges in the memorandum that he understands the "desire of CEI . . . to have the agreement highlight the Municipal Light and Power Plant System (MELP) to the maximum possible degree." The First Board majority finds all of this to be improper "cross-fertilization." The First Board majority expressly

[13] Affidavit of O'Loughlin.

[14] Affidavit of Brueckel.

[15] Memorandum and Order of the Board, p. 248, *supra*.

[16] First Board Exhibits A and B.

"charge [s] that there was an *actual* transmittal of material relating to the Firm's advice to the City in connection with the 1972–1973 bond issue to attorneys within the Firm representing the interest of CEI in adversary proceedings, specifically, the Lansdale letter to Hauser of June 17, 1974 and the attached Brueckel memorandum to Lansdale of May 21, 1974."[17]

## JURISDICTION OF THE LICENSING BOARD

Section 2.713(c)(2) of the Commission's Rules of Practice provides that an attorney may be barred from participation in a proceeding if that person has "failed to conform to the standards of conduct required in the Courts of the United States." Are the standards contemplated by that rule those set forth in the ABA Code of Professional Responsibility? I believe that they are,[18] but with a significant limitation.

An administrative agency that has general authority to prescribe its rules of procedure may set standards for determining who may practice before it. *Goldsmith v. U. S. Board of Tax Appeals,* 270 U. S. 117, 122. Under the Atomic Energy Act, the Nuclear Regulatory Commission is empowered to "prescribe such regulations or orders as it may deem necessary . . . (3) to govern any activity authorized pursuant to this Act" (42 U.S.C. 2201(i)). Additionally, Congress has authorized the Commission to "make . . . such rules and regulations as may be necessary to carry out" the statutory purposes (42 U.S.C. 2201(p)). The Commission adopted Section 2.713(c)(2) in the exercise of its rulemaking authority. Because the rulemaking authority extends only to the lawfully authorized business of the Commission, I am of the opinion that Section 2.713(c)(2) is not intended to embrace attorney conduct where Commission action with respect to that conduct would not reasonably further the agency's mission. Thus, the rule would embrace improper attorney conduct occurring in the presence of a Board at a Commission proceeding; Commission action with respect to such conduct can reasonably be viewed as in furtherance of the agency's business. The concept can probably be extended to some attorney conduct occurring out of the presence of a Board, but which bears substantially and directly on a matter which is before that Board. To state the matter directly: the standards of conduct contemplated by Section 2.713(c)(2) are the standards set forth in the Code of Professional Responsibility, but the Code will

[17] Memorandum and Order of the Board, p. 248, *supra.*

[18] In *Herman v. Dulles,* 205 F. 2d 715, the International Claims Commission of the United States, in the Department of State, revoked the right of an attorney to appear before it upon finding that he had "failed to conform to recognized standards of professional conduct," in accordance with that Commission's rule. The attorney had violated certain canons of ethics of the American Bar Association. The United States Court of Appeals for the District of Columbia held that the rule regarding "recognized standards of professional conduct" made the canons the proper standard by which to measure the attorney's conduct. Application of the rule as thus construed was held to support the revocation action.

apply in a Commission licensing proceeding only to the extent that its application can reasonably be viewed as in furtherance of the Commission's business authorized by law.[19]

## ANALYSIS OF THE FACTS

Neither of the two fact situations relied on by the First Board majority is even "substantially related" to the anti-trust proceeding presently before the Licensing Board. Therefore, that Board has no authority to grant the City of Cleveland's motion for disqualification on the bases relied upon. The 1966 situation antedates the anti-trust proceeding by a period of several years and bears no relation, substantial or otherwise, to any matter at issue there. Similarly, the facts concerning the 1972–1973 bond issue did not occur in the anti-trust proceeding and are simply unrelated to that proceeding. Although the June 17, 1974 letter from Lansdale to Hauser enclosing the May 12, 1974 memorandum from Brueckel to Lansdale is said by the First Board majority to demonstrate "a direct nexus between these proceedings and the information being exchanged," an examination of the facts shows any such connection to be both incidental and insubstantial.

With respect to the 1966 situation, the First Board majority views it all as "discussions covering a 'Little Hoover Commission Report' on MELP relating to general fund assessments for street lighting and payment terms under the trust indenture of MELP revenue bonds [in which] Mr. Lansdale directly consulted with Mr. Brueckel, a Squire, Sanders & Dempsey partner who has been engaged in the representation of the City with respect to its bond work." That statement is unfortunately misleading because it is a generality which is given no contextual setting in the First Board majority's memorandum.

The "discussions covering a 'Little Hoover Commission Report' on MELP" were between Carl White and his associate, and between John Lansdale and John Brueckel, at the request of Mr. White. Mr. White's request for the meeting grew out of his responsibility for preparing the Little Hoover Commission report. There is no doubt that the discussions related "to general fund assessments for street lighting and payment terms." This is not surprising, since Carl White's interest was in discovering ways to relieve the Cleveland General Fund by reducing charges to that Fund by the City electric department. No evidence indicates that the Squire, Sanders & Dempsey attorneys gave either the City or its Little Hoover Commission "advice [which if followed] would have raised City's electric rates," or support the conclusion in the dissenting opinion

[19] The Commission has no general supervisory power over the attorneys who appear in its proceedings. Improper conduct on the part of such attorneys which is unrelated to the Commission's business can only be, from the perspective of the Commission, the legitimate concern of courts of law and duly authorized bar disciplinary bodies.

that ". . . . Mr. Brueckel participated with his firm in acting for CEI against the competitive interest of City's electric system."[20] That "Mr. Lansdale directly consulted with Mr. Brueckel" at this meeting is a fair inference, but not a very informative or useful one. Since Lansdale and Brueckel were at the meeting together, they undoubtedly talked, i.e., "consulted," with one another. But the First Board majority's conclusion "that in this instance there was specific cross-fertilization within the Firm with respect to matters jointly affecting CEI and the City in which the interests of the parties were or could have been adverse,"[21] appears to be wholly without evidentiary support. That there was a "transfer of information obtained in connection with providing services to one client to the attorneys handling the affairs of another client" is but an inference appearing to rest on no more than that Brueckel and Lansdale were both at the meeting, and that Lansdale provided general representation for CEI and Brueckel acted as bond counsel to the City from time to time. Just what information is supposed to have passed between Mr. Lansdale and Mr. Brueckel? There is no evidence to indicate that there was any; the First Board makes no attempt to state what it may have been. And yet, that some such information be identified would seem to be logically necessary to any conclusion that such information was either "specifically transferred" between Mr. Lansdale and Mr. Brueckel, or that it was "obtained in connection with" serving a particular client.

The facts concerning the 1972–1973 bond issue did not give rise to any duty of "disclosure" on the part of Squire, Sanders & Dempsey to the City of Cleveland. What would the Firm have disclosed? At the time the Firm undertook this bond representation, each of them was aware of the ongoing controversies between the City and the Cleveland Electric Illuminating Company. These controversies involved the solicitation and retention of customers and the conditions under which CEI would provide supplemental electric power to the City. As I understand the situation, it was the existence of these controversies that at first caused the City to request Squire, Sanders & Dempsey to suggest alternate bond counsel, then caused the Firm to be wary of the City's later offer of this employment, and then caused the Firm to obtain the consent of the Cleveland Electric Illuminating Company to the bond representation. Nothing about this situation gave rise, in my view, to any duty on the part of Squire, Sanders & Dempsey to make any "disclosure" or obtain the "consent" of anyone under any Disciplinary Rule cited by the First Board. The City cannot now posit the existence of a "conflict" giving rise to some duty of disclosure at the time of the 1972–1973 bond representation merely on the fact that CEI (whom SS&D represented generally) and the Light Plant were in competition with one another. The Firm had acted as bond counsel for the city on several occasions before, while also generally representing the CEI.

[20] Dissenting Memorandum, p. 254, *supra*.

[21] Memorandum and Order of the Board, p. 240, *supra*.

As pointed out above, the First Board majority expressly charges improper "cross-fertilization" with respect to the June 17, 1974 Lansdale letter to Hauser enclosing the May 12, 1974 memorandum from Brueckel to Lansdale. That majority calls it an "*actual* transmittal of material relating to the Firm's advice to the City in connection with the 1972–1973 bond issue to attorneys within the Firm representing the interest of CEI in adversary proceedings. . . ."

I find no evidence to indicate that this correspondence is in any way related to the 1972–1973 bond issue. I believe that the analysis of the Brueckel memorandum set out in the Firm's Trial Memorandum is correct:

> Paragraph 1 of the Brueckel memorandum (Board's Exhibit B) refers to the Cleveland charter and identifies charter requirements. Paragraph 2 states "you may have to give attention to prior practice that has been followed in preparing contracts" but continues, "I am not familiar with the forms of these contracts" Mr. Brueckel then calls attention to the ordinances granting contracting authority to the director of the department and says: "This [the ordinances] forms the basis for the suggestions contained in the latter portion of this memorandum." Paragraph 3 states that there is some historical evidence that the City Council wanted MELP to stand on its own two feet. . . . The memorandum concludes: "On the basis of all the foregoing, I would suggest. . . ." The memorandum thus by its very terms is delimiting. It states precisely the basis upon which it reaches its conclusion.[22]

Counsel for the Firm argues that, "The memorandum is proper because it relates to municipal law generally." I agree. The problem with which the memorandum concerns itself appears to be nothing other than the strictly legal one of determining whether the Municipal Electric Light and Power Plant and System is a legal entity capable of entering a binding contract. The ultimate suggestion of the memorandum is that the then proposed agreement between the City and CEI concerning the supply to the City of electricity generated by nuclear power plants be between CEI and "the City, acting on behalf of its Municipal Electric Light and Power Plant and System." I do not find that the memorandum contains any "material relating to the Firm's advice to the City in connection with the 1972–1973 bond issue," and none is identified by the First Board. Thus, any conclusion that such information was actually transferred between Mr. Lansdale and Mr. Brueckel is not supported by the evidence.

[22] Trial Memorandum of Squire, Sanders & Dempsey at Evidentiary Hearing Before Special Board on Disqualification, pp. 15-16.

## CONCLUSIONS

The Licensing Board lacks the legal authority to grant the motion for disqualification on the basis of the conduct relied on, since 10 CFR §2.713(c)(2) does not embrace that conduct. In addition, the facts concerning the situations relied on by the First Board evidence no impropriety on the part of the Firm.

The motion for disqualification should be denied, and the Board's order of suspension vacated.

Edward Luton, Member

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-12

ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman
Dr. A. Dixon Callihan, Member
Dr. Richard F. Cole, Member

In the Matter of

Docket No. 70-1729

ALLIED-GENERAL NUCLEAR SERVICES
ALLIED CHEMICAL NUCLEAR
PRODUCTS, INC.
GENERAL ATOMIC COMPANY

March 25, 1976

(Barnwell Fuel Receiving and Storage Station)

Upon untimely petition (as amended) by the American Civil Liberties Union of South Carolina for leave to intervene in licensing proceeding for fuel receiving and storage station, the Licensing Board rules that: (1) the petitioner has failed to identify with any degree of specificity the alleged injury to particular civil liberties and Constitutional rights or the connection between that injury and this proceeding; (2) while suggesting some injury to its members' property interests, the petitioner does not specify what that injury might be or how it might occur; (3) the petitioner's interest in determining whether the issuance of the proposed license may pose threats to civil liberties is the kind of concern best carried out in the less formal atmosphere of a rulemaking proceeding; and (4) the petitioner has not shown that any of the four factors listed in 10 CFR §2.714(a) justify its untimely petition.

Upon amended petition by 221 Pickens Street Organization for leave to intervene in the same proceeding, the Licensing Board rules that (1) the petitioner has shown the requisite interest in the proceeding in that at least one of its members lives in close proximity to the fuel plant; and (2) it has presented at least one relevant contention which meets at least minimally the requirements of 10 CFR §2.714(a) and (b).

Petition of the American Civil Liberties Union of South Carolina denied; petition of 221 Pickens Street Organization granted; petition of the State of Georgia to participate as an interested State under 10 CFR §2.715(c) granted.

RULES OF PRACTICE: INTERVENTION PETITION (INTEREST)

In order to become a party to an adjudicatory proceeding under §189 of the Atomic Energy Act and 10 CFR §2.714, a petitioner must demonstrate that it has an interest which may be affected by the outcome of the proceeding, *i.e.*, that it may suffer a concrete and specific injury as a result of the proceeding.

RULES OF PRACTICE: CONTENTION REQUIREMENT FOR INTERVENTION

Even though a petitioner has presented a contention which is adequate to entitle it to intervene in a proceeding, it must establish, to the satisfaction of the hearing board, that the contention is a genuine issue suitable for adjudication.

## MEMORANDUM AND ORDER

By a Memorandum and Order, dated October 1, 1975,[1] this Board ruled on certain petitions to intervene which had been filed in response to the Nuclear Regulatory Commission's (Commission) Notice of Opportunity for Hearing[2] in the above captioned proceeding. In that Memorandum and Order, the Board granted the joint petition to intervene filed on behalf of Environmentalists, Inc., South Carolina Environmental Action, Inc., and Piedmont Organic Movement (Joint Intervenors); granted the petition of the State of South Carolina to participate under the provisions of 10 CFR §2.715(c); and denied the petitions of the 221 Pickens Street Organization (Pickens Street) and the American Civil Liberties Union of South Carolina (ACLU/SC). The latter petition was not timely filed. The 221 Pickens Street Organization and ACLU/SC were given an opportunity to amend their petitions, should they desire to do so, in order to cure the defects which the Board had found. Both Petitioners have filed amended petitions.

## THE AMENDED ACLU/SC PETITION

In the October 1 Memorandum and Order, the Board noted that: "The ACLU petition contains no showing regarding the identity of the members of the organization in South Carolina who live or conduct substantial activities in

[1] LBP-75-60, NRCI-75/10, 687.
[2] 40 *F.R.* 28506, July 7, 1975.

reasonable proximity to the facility site and whose interest may be affected and how such interest may be affected. Nor is there any showing as to how the individual who has signed the petition 'has been duly authorized to be the official representative of the above-named petitioner in this proceeding.' Further, it is not clear that the South Carolina members have either requested to be represented or consented to be represented by the ACLU in this proceeding." NRCI-75/10 at 690.

Because the ACLU/SC petition was not timely filed, the Board went on to recite the showing which ACLU/SC must make in order to establish "good cause" for its untimely filing, noting "... that the question of timeliness is inextricably interwoven with the question of standing...." NRCI-75/10, at 691.[3]

In response to the aforesaid ruling, ACLU/SC filed an amended petition to intervene on October 14, 1975. This petition was hand delivered to the Board and the parties at an evidentiary session of the hearings on the Barnwell Nuclear Fuel Plant Separations Facility, and argument was heard by the Board with regard to the petition at a prehearing conference held in Columbia, South Carolina on Thursday, October 16, 1975. Additionally, Allied-General Nuclear Services, Allied Chemical Nuclear Products, Inc., and General Atomic Company (Applicants) and the Commission's Regulatory Staff (Staff) were given an opportunity to respond to the amended petition in writing, and did so on October 23, 1975.

The amended petition differs from ACLU/SC's original petition in that an effort has been made to refine the contentions, a further explanation of the reasons why the petition was not timely filed has been provided, as well as a further explanation of the authorization of ACLU to participate in these proceedings, and an individual member of ACLU residing in Aiken, South Carolina, has affirmed under oath that the allegations of the petition are true and correct to the best of her knowledge and belief and consented to the representation of ACLU by Suzanne Rhodes. Subsequently, on November 3, 1975, ACLU/SC advised the Board in writing that it wished to revise its contentions by consolidating most contentions with Joint Invervenors and rewriting others.

The amended petition purports to be filed on behalf of ACLU/SC "... membership, supporters, and all other citizens and organizations similarly situated .." It states that ACLU/SC is concerned that due process of law be obtained through meaningful public participation in this proceeding; that ACLU/SC is informed with regard to "... the civil liberties issues relating to ..." the application and can assist by presenting information apparently on those issues; that the members of ACLU who "... live, work, and/or own

[3] *Cf. Long Island Lighting Co.*, (Jamesport Nuclear Power Station, Units 1 and 2) ALAB-292, NRCI-75/10, 631. *Duke Power Company*, (Catawba Nuclear Station, Units 1 and 2) LBP-73-28, 6 AEC 666, aff'd: ALAB-150, 6 AEC 811, clarification denied: ALAB-155, 6 AEC 829.

property in the geographic areas. . . . ." which will be affected by the proposed facility may be injured in that their civil liberties may be adversely affected; and that ACLU/SC is concerned that nuclear facilities are operated so as not to violate ". . . citizens' Constitutional rights to property, health, welfare, and privacy . . ." and that decisions are rendered in accord with applicable laws and regulations and due process of law. ACLU/SC's revised contentions filed on November 3, 1975, state that the Draft Environmental Statement fails to adequately address the following matters which allegedly relate to civil liberties and Constitutional rights of ACLU/SC members:

(1) Applicant and Staff have failed to document specifically designated routes for transporting spent fuel, thereby precluding citizens from specific knowledge regarding the possible effects of waste transport. There is no indication that Staff and Applicant have planned transportation routes for spent fuel so as to avoid population centers and thereby avoid incidental or accidental radiation exposures to large population groups during transportation.

(2) Applicant and Staff have failed to provide full disclosure to the public, via whole-program analysis as required by NEPA of the overall program for the transport of spent nuclear fuel. The dependence on WASH 1238 "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants," December 1972, is improper because this reference is not based on the AEC's (nor NRC's) requirements for NEPA impact review. If the Atomic Safety and Licensing Board Panel does not rule that this deficiency must be corrected, it then becomes the duty of the Nuclear Regulatory Commission to do so. Failures to comply with applicable statutes and rules include:

(a) There has been no NEPA review of overall environmental impact of transportation.

(b) Subject document WASH 1238 did not incorporate and respond to comments of Federal and state agencies consistent with NRC regulations and Council on Environmental Quality recommendations.

(c) The public hearing was held without adequate notice and opportunity for individuals and organizations and states to be parties.

(d) An adjudicatory hearing was not held as necessary to provide a meaningful proceeding with sworn testimony and evidence and rights of cross-examination.

(e) WASH 1238 was not based on the above requirements for a NEPA review and includes no consideration of transportation to and from facilities for the storage of spent nuclear fuel.

(3) The decision to license the BNFP and the decision to license the BRFSS cannot be made separately if due process is to be observed. The two facilities, although it is proposed to license them separately, are in fact being

considered an integral facility by the Staff and the Applicant. This piecemeal decision-making generates a bias favoring subsequent approval of the Separations Facility and other related licensing actions and is a violation of the Petitioner's members' rights to due process. Remarks in the Draft Environmental Statement on paragraphs i2, 1.1, 4.4, 8.1, 9.4, 10.2.2, 10.3.5, and 10.5 substantiate our position that the BRFSS is in fact an integral portion of the BNFP.

In its filing setting out the rewritten contentions, ACLU/SC notes that it has "... adopted contentions to facilitate the hearing process ..." and reserves the right to amend its petition at any time.

The petition prays that a public hearing be noticed; that ACLU/SC be admitted as a party; that the public hearing be deferred until errors and omissions in the Draft Environmental Statement are corrected, a Final Environmental Statement and the Final Safety Evaluation Report issued; and that application be denied.

In support of the petition, Suzanne Rhodes has executed an affidavit which recites that she has been duly authorized to represent ACLU/SC and how that authorization came about; that ACLU/SC's interest is in the protection of civil liberties of its members; "... that approval of operating the [FRSS] ... separately as a storage installation for spent nuclear fuel would violate citizens' civil right to due process, and adversely affect the Constitutional rights to property, health, welfare, and privacy ..."; that the proposed operation of the FRSS "... does not appear to comply with the protection requirements for an independent installation for the storage of spent nuclear fuel."; the two commercial reprocessing plants already constructed have been failures; "that ... civil liberties [are] threatened by the uncertainties surrounding reprocessing;" and "... a piecemeal decision is being considered which violates the civil rights of members ..." of ACLU/SC. The affidavit concludes that the licensing of FRSS without holding a public hearing at which all who had so requested were parties would violate the National Environmental Policy Act (NEPA) and the Atomic Energy Act (Act), as well as state and other Federal legislation. Further, it is asserted, such licensing would amount to a denial of due process.

That the principal interest of the ACLU/SC is the protection of the civil liberties of its members was further emphasized at oral argument. In his statement in support of the petition, Mr. Whitaker, counsel for ACLU/SC stated:

"Our participation, the question of our participation being reasonably expected to help develop a sound record comes from this fact: we are the only organization exclusively questioning the possible violations of the civil rights of the people of South Carolina.

"Specifically, violation of the 4th, 5th, 9th, and 14th amendments to the Constitution. We are concerned that peoples' personal and property rights may be violated by the FRSS and that we are also concerned tangentially—not

tangentially really—but we are also concerned with the inadequacy of the draft statement and possible violations of civil rights which may result due to improper installation.

"We feel that while generally health and safety are coincidental with the preservation of civil rights, they are not always coincidental. There may be rights to travel, property rights, rights to privacy and others which do not hit one fullface so far as injury goes. But we think that a well-developed consideration of these questions could indeed prevent undue litigation afterward because there may well be situations where people could file viable lawsuits with regard to these violations or the possible violations.

"What we need to do is we need to cross-examine the various witnesses to make this determination on our own.

"We do not plan at this time to present any witnesses of our own. We merely plan to cross-examine.

"Again, on the question of civil rights aspects of this record development, our participation will somewhat broaden the issues considered. We don't think it will unduly delay, we don't intend to delay unduly but we think this question is vital, needs to be brought up and it will definitely be broadening the scope of inquiry." (Tr. 94-95)

The Staff generally supports the granting of the petition, taking the position that the assertion in the Rhodes affidvait that ". . . the proposed operation of the fuel receiving and storage station of the Barnwell Nuclear Fuel Plant does not appear to comply with the protection requirements for an independent installation for the storage of spent nuclear fuel" states a concern for the health and safety of ACLU/SC members and thus an injury to interests within the zone of interests protected by the Act. (Tr. 86-87)

The Applicants oppose the petition, taking the position that there is no nexus between the FRSS and civil liberties. (Tr. 108)

It is evident from the petition, supporting affidavit, and argument of counsel for ACLU/SC that the sole concern of ACLU/SC is the possibility that the issuance of a separate license for the FRSS may result in deprivation of the civil liberties of ACLU/SC members. This then is the injury which, ACLU/SC alleges, may be incurred and which justifies ACLU/SC's participation in this proceeding as a full party. ACLU/SC does not, however, tell us how this injury may come about, what particular rights may be infringed, or how, by participating in this proceeding, it may somehow prevent that injury by preventing the separate licensing of FRSS. In fact, it seems clear from the oral argument presented by ACLU/SC that it cannot now answer these questions and wishes to use these proceedings as a means to obtain these answers.

As was pointed out in the October 1, 1975, Memorandum and Order of this Board, the questions presented by an untimely petition to intervene are inextricably interwoven with the question of standing to intervene. Thus, it is necessary for this Board to determine whether the allegations of ACLU/SC are

sufficient to satisfy the requirements of §189 of the Act and 10 CFR §2.714 that, in order to become a party to an adjudicatory hearing, a petitioner must demonstrate that he has an interest which may be affected by the outcome of the hearing.

Section 2.714(d) requires the Board, in determining whether the necessary interest exists, to consider "[t]he nature of the petitioner's right under the Act to be made a party to the proceeding" (subsection (d)(1)), "[t]he nature and extent of the petitioner's property, financial or other interest in the proceeding" (subsection (d)(2)) and "[t]he possible effect of any order which may be entered in the proceeding on the petitioner's interest" (subsection (d)(3)). Because these considerations reflect the various closely interrelated factors which, taken together, demonstrate whether the requisite interest has been shown, the Board has not attempted to discuss each separately.

As the decisions discussed below indicate, these factors have been held to demonstrate the requisite interest when it appears that a petitioner has alleged that, as a result of the proceeding, he will suffer a concrete and specific injury. Thus, in the *Peach Bottom* case,[4] the Atomic Energy Commission, in approving a petition to intervene, stated:

"We have concluded that at least part of petitioners' filings are in substantial compliance with our requirements for intervention. For example, affiant Kepford, an attorney who lives in the area, states on petitioners' behalf, that "[a] number of the members of the petitioning groups live sufficiently close to the Susquehanna River and, in particular, Conowingo Pond to make use of its recreational potential.[1] These members have an interest in preserving the water quality of the Pond both with regards to water quality or purity and undue temperature increases." . . .

"Read fairly, the pleaded information reveals a personnel interest (persons living near the plant who use the Conowingo Pond as a recreational facility); how that interest may be adversely affected (creation of allegedly unwarranted thermal pollution may diminish or eliminate the Pond's recreational capability). . . .

[1] Petitioners' affidavits recite, in part, that "a number of members live within five (5) miles" of the facilities. Elsewhere in petitioners' affidavits we are told specifically that some of petitioners' members do "utilize the recreational potential of the pond."

Similarly, in Grand Gulf,[5] an Appeal Board somewhat reluctantly accepted as sufficient to support standing the allegation that the petitioner used recreational

[4] *Philadelphia Electric Company, et al.* (Peach Bottom Atomic Power Station, Units 2 and 3) CLI-73-10, 6 AEC 173.

[5] *Mississippi Power and Light Co.*, (Grand Gulf Nuclear Station, Units 1 and 2) ALAB-130, 6 AEC 423.

facilities within the vicinity of the site. Although not articulated by the Appeal Board, it is evident from the decision that the petitioner had alleged a personal interest (use of recreational facilities) which could be adversely affected by the presence of the reactor.

In *Catawba,*[6] a licensing board held that a sufficient showing of interest had been made where a petitioner alleged that many of its members lived in the vicinity of the proposed plant and used the waters of the lake which would provide cooling water and ultimate heat sink for the plant for a variety of purposes, and that the construction and operation of the plant would have an adverse effect on them by contaminating the air and waters, thus interfering with their enjoyment of their homes and use of the lake.

In *WPPSS Nuclear Project, Nos. 3, and 5*[7] *and WPPSS Nos. 1 and 4*[8] two separate licensing boards were presented with identical allegations in support of petitions to intervene filed by the same individual. Both petitions alleged that the petitioner sought to acquire leases to geothermal resources in the Applicant's service area and that the grant of a construction permit could adversely affect petitioner from an economic standpoint. Petitioner did not allege that he had any present economic interests which would be adversely affected, only that he hoped to acquire such interests and was taking steps to do so. In *WPPSS 3 and 5,* the licensing board held that petitioner's allegations at most represented only a general interest in generating electrical energy from geothermal sources, thus falling short of the injury in fact necessary to support standing. In *WPPSS 1 and 4,* the licensing board, noting that petitioner was making substantial efforts to pursue his geothermal interests and that, although any injury to those interests was necessarily speculative, nonetheless concluded that petitioner had alleged an interest which might be affected within the meaning of §189 of the Act and 10 CFR §2.714.

The WPPSS petitioner's allegations obviously presented a close case. The board notes that the allegations of injury raised by ACLU/SC fall far short of the allegations in the two WPPSS cases. First, where the WPPSS petitioner raised a specific interest and described his efforts to pursue that interest, ACLU/SC makes only vague references to civil liberties with almost no attempt to define what specific liberties are jeopardized by the instant proceeding. Second, where the WPPSS petitioner specifically indicated how the WPPSS proceeding might injure his interests, ACLU/SC fails to show how the instant proceeding would impinge on civil liberties. Instead ACLU/SC alleges that if a license is granted certain events may occur which may impinge on civil liberties. Assuming

[6] See note 3, *supra.*

[7] *Washington Public Power Supply System* (WPPSS Nuclear Project Nos. 3 and 5) LBP-75-2, NRCI-75/1, 21.

[8] *Washington Public Power Supply System* (WPPSS Nuclear Project, Nos. 1 and 4) LBP-75-11, NRCI-75/3, 252.

*arguendo* that those events will occur, we are left to speculate how they will infringe any specific civil liberties. Those allegations cannot be said to rise even to the level of an "ingenious academic exercise in the conceivable."[9]

In *Wolf Creek*, an appeal board recently stated that "... in NRC licensing proceedings in general ... the 'notice pleading' allowed in the federal courts is insufficient."[10] In that case, the appeal board rejected a petition to intervene filed in an antitrust proceeding because it was not clear from the petition just what conduct petitioner alleged to be inconsistent with the antitrust laws, and what specific antitrust policies were involved. The ACLU/SC petition simply fails to identify with any degree of specificity either the injury or the connection between that injury and this proceeding, and thus cannot meet the standard set out in *Wolf Creek*. Indeed, the board finds it difficult to believe that the allegations of the petition would be sufficient even under the notice pleading of the Federal Rules of Civil Procedure. These allegations would seem to fall short of the requirement that a pleading contain "... a short and plain statement of the claim showing that the pleader is entitled to relief ..." contained in Rule 8(c), F.R. Civ. P. The petition simply does not identify what the claim is.[11]

---

[9] *U.S. v. SCRAP*, 37 L.Ed. 2d 254 at 270 (1973).

[10] *Kansas Gas and Electric Company, et al.* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, NRCI-75/6, 559 at 575. (Subsequently, the Appeal Board found that an amended petition for leave to intervene corrected the deficiencies in the earlier petition, and should be granted) ALAB-299, NRCI-75/11, 740.

[11] While we do not feel it necessary, in view of the preceding discussion, to discuss judicial interpretations of interest, we note that under those interpretations petitioner clearly does not qualify. See *Sierra Club v. Morton*, 31 L.Ed 2d 636 (1972), where the Court noted that broadening the categories of injuries which will support standing in no way eliminates the requirement that one seeking judicial review of administrative action must have suffered an injury in fact; *United States v. SCRAP*, 37 L.Ed. 2d 254 (1973), "Of course, pleadings must be something more than an ingenious academic exercise in the conceivable. A plaintiff must allege that he has been or will in fact be perceptibly harmed by the challenged agency action, not that he can imagine circumstances in which he could be affected by the agency's action. And it is equally clear that the allegations must be true and capable of proof at trial." 37 L.Ed. 2d at 270; *Schlesinger v. Reservist Committee to Stop the War*, et al., 41 L. Ed. 2d 706 (1974), "Concrete injury, whether actual or threatened, is that indispensable element of a dispute which serves in part to cast it in a form traditionally capable of judicial resolution. It adds the essential dimension of specificity to the dispute by requiring that the complaining party have suffered a particular injury caused by the action challenged as unlawful" 41 L.Ed. 2d at 718; *Laird v. Tatum*, 33 L.Ed. 2d 154 (1972), where a chilling effect on plaintiff's rights was insufficient to support standing absent a specific present objective injury or specific threat of future injury to plantiff's rights; and *Linda R.S. v. Richard D.*, 35 L.Ed. 2d 536 (1973), where the lack of nexus between the injury sustained by plaintiff and the claim sought to be adjudicated defeated standing.

While the petition raises a question whether some property interests of ACLU/SC members may be injured as a result of this proceeding, we are left to speculate what they might be or how they might be injured. It is possible that this concern revolves around some perceived threat to civil liberties arising from security measures necessary to safeguard the FRSS or shipments of spent fuel to it, or from the possibility that fuel might be stored in the FRSS for substantial periods should no reprocessing be undertaken. Perhaps ACLU/SC fears that its members will be inhibited in the enjoyment and utilization of their property for personal and business purposes.

Not only does the petition fail to spell out this interest, but ACLU/SC has further complicated matters by its failure to supply affidavits from its members which state what their concerns are and why they wish ACLU/SC to represent them. Instead, all we are furnished is a single affidavit from a member residing some 30 miles from the plant site. That affidavit merely attests to the truth of the petition. It does not specify why the affiant believes her civil liberties to be in danger, or which of her property interests may be injured by this proceeding. Certainly ACLU/SC's case would be stronger had it supplied affidavits from members indicating their specific property interests and their own civil liberties.

It is evident from the petition and supporting papers that ACLU/SC is simply afraid there may be a problem for civil liberties growing out of this proceeding. Counsel for ACLU/SC has candidly stated: "We feel that while generally health and safety are coincidental with the preservation of civil rights, they are not always coincidental. There may be rights to travel, property rights, rights to privacy and others which do not hit one fullface so far as injury goes. . . . What we need to do is we need to cross-examine the various witnesses to make this determination on our own." (Tr. 94) Thus, ACLU/SC's real interest is to use this proceeding as a vehicle for determining whether there may indeed be threats posed to civil liberties by issuance of the proposed license.

Use of the Commission's adjudicative proceedings in such a manner is not altogether unprecedented. There have been instances, particularly with respect to the routing of transmission lines, in which petitioners have sought admission as a party to a proceeding not in furtherance of a general opposition to the proposed action, but solely in order to assure themselves that they would not be injured in a specific way. However, in such instances, the potential injury is specific and concrete, as contrasted with the general concern or interest in a proceeding because of fears that a problem might be presented.

We do not believe that this proceeding, or for that matter litigation in general, is suited to the use which petitioner wishes to make of it. The exploration and determination of any potential impact of a fuel receiving and storage station on civil liberties is the kind of concern best carried out in the less formal atmosphere of a rulemaking proceeding. ACLU/SC is of course free to seek such a proceeding.[12]

[12] 10 CFR §§ 2.801, 2.802.

Moreover, in the absence of specific allegations of injury, we feel that the use of this proceeding to conduct the exploration desired by ACLU/SC would necessarily carry us far from the issues specified in the Notice of Opportunity for Hearing. In this regard, the Board notes that 10 CFR §2.714(h) provides that the granting of intervention is not to change or enlarge the issues specified in that notice. Counsel for ACLU/SC has candidly noted that their participation "will definitely be broadening the scope of inquiry." (Tr. 95) The Board does not believe that the Commission's rules should be so far stretched, or that the issues should be so far broadened in the absence of specific allegations of injury.

We must note that the protection of civil liberties is not entrusted solely to ACLU/SC. Surely the State of South Carolina and the Staff, in their capacity as representatives of the public, must be concerned with any threat to the civil liberties of South Carolinians. Both are competent to bring to the Board's attention any actual or potential injury in fact which might result from a grant of the proposed license. In this regard, the Board directs the Staff to carefully review the testimony and the record to be developed from the standpoint of any such injury and to advise the Board of its conclusions. Should the Staff or the state deem it appropriate, the Board will consider hearing any witnesses which they might wish to sponsor on this subject.[13]

Before leaving the discussion of the nature of ACLU/SC's interest, the board wishes to note in passing that it is confident that should civil liberties indeed be threatened as a result of this proceeding, ACLU/SC would utilize all appropriate, lawful means available to it to ensure that the threat does not become reality.

Lastly, we note that the petition was not timely filed, nor was any effort made to seek an extension of the deadline for filing. While the delay was not lengthy, §2.714 would ordinarily require us to consider whether good cause has been shown for the delay. The Commission has held that "[l]ate petitioners properly have a substantial burden in justifying their tardiness."[14] Boards have a duty to maintain the integrity of the Commission's regulations.[15]

Because of the conclusions reached above, we do not feel it necessary to discuss whether good cause has been shown by ACLU/SC for its tardiness. However, because the four factors listed in 10 CFR §2.714(a) which are to be

---

[13] The parties have not addressed, and the Board has not decided, the question of its jurisdiction to entertain matters relating to civil liberties. We note that this question is not free from doubt. *Cf. State of New Hampshire v. AEC,* 406 F.2d 170 (1st Cir. 1969). Therefore, should the Staff or the State identify any actual or potential injury in fact to civil liberties, it should advise the Board of its conclusions relating to jurisdiction of the Board and the Commission. The other parties will be provided with an opportunity to respond to such advice.

[14] *Nuclear Fuel Services, et al.* (West Valley Reprocessing Plant) CLI-75-4, NRCI-75/4R, 273.

[15] *Duke Power Company* (Catawba Nuclear Station Units 1 and 2) LBP-73-28, *supra* note 3.

considered by boards passing on late petitions to intervene provide a convenient way of summarizing some of our conclusions in regard to this petition, we pass on to those four factors.

First, we have noted our confidence that ACLU/SC would avail itself of all appropriate and lawful remedies should the civil liberties of its members be actually threatened as a result of this proceeding. Those remedies encompass not only the various provisions of the Commission's rules[16] which would permit ACLU/SC to bring the threat to the attention of the Staff, this Board, or the Commission, but proceedings in the Federal Courts as well should ACLU/SC be aggrieved by Commission action. Thus there are readily available to ACLU/SC other means by which its interest may be amply protected.

Second, we do not believe that participation by ACLU/SC in circumstances where the purpose of that participation is to explore, solely by cross-examination, the possibility that civil liberties might be threatened would assist in developing a sound record. As noted above, the kind of inquiry ACLU/SC wishes to conduct is best suited to rulemaking.

Third, as noted above, both the State of South Carolina and the Staff necessarily share the same general concerns as ACLU/SC. In the absence of specific allegations of injury in fact, and in light of our directive to the Staff, the Board is confident that they will adequately represent petitioners' interest.

Fourth, as pointed out above, ACLU/SC candidly notes that its participation will broaden the issues. The Board believes it will broaden them impermissibly beyond the issues specified in the Notice of Hearing.

Consequently, for all the foregoing reasons, the petition of ACLU/SC must be denied.

## THE AMENDED PICKENS STREET PETITION

In the October 1, 1975, Memorandum and Order the Board denied the petition for leave to intervene filed by 221 Pickens Street Organization on the

[16] We have already referred to the provisions of the rules governing rulemaking, 10 CFR §§2.801 and 2.802 which permit ACLU/SC to petition the Commission to institute rulemaking and which specifically allow the petitioner to seek a halt in ongoing licensing proceedings pending resolution of the rulemaking proceeding. We note in passing that the Commission has already indicated an interest in exploring the civil liberties issues posed by nuclear safeguards. See 40 *F.R.* 48190, October 14, 1975. In addition to rulemaking, it is open to ACLU/SC to petition the Staff to issue an order to show cause to the Applicants once a license is granted. See 10 CFR §2.206. Up until the time that a license is granted, should developments occur which portend a specific infringement of civil liberties, this Board could again entertain a petition to intervene from ACLU/SC. However, the Board cautions that ACLU/SC would bear a substantial burden in showing good cause why the petition should be granted. Cf. *Mississippi Power and Light Company* (Grand Gulf Nuclear Station, Units 1 and 2), LBP-73-41, 6 AEC 1057.

grounds that (a) the petition contained nothing to show that Petitioner was a legal entity, nor did it indicate Petitioner's form of business association; (b) the petition contained no showing as to how an organization as yet unformed could have a person who "has been duly authorized to be the official representative of the above-named petitioner in this proceeding;" (c) the petition failed to identify members of Petitioner's organization who live or conduct substantial activities within reasonable proximity to the plant site whose interest may be affected and how that interest might be affected; and (d) the petition purported to claim that Petitioner was speaking for persons other than the members of the 221 Pickens Street Organization. The Board allowed Petitioner ten days in which to file an amended petition.

On October 13, 1975, Petitioner filed its "Amendments to Petition to Intervene in Materials Licensing Proceeding" (Amended Petition), wherein it is represented that Pickens Street is an "unincorporated, non-profit, educational membership association, organized at Columbia, South Carolina, by Messrs. Frank Lee, Tom Jones, Bart Burns and Charles Creig in January 1973." The restaurant operated by Petitioner holds a Business and Professional license from the City of Columbia, South Carolina. Attached to the Amended Petition is an affidavit signed by Imogene Hardee, President of 221 Pickens Street Organization, which shows that Petitioner's authorized representatives are Ms. Dora Susan Jumper and Mr. Brad Wych, which representatives have been appointed pursuant to Petitioner's by-laws.

The interests of Petitioner which may be affected by the operation of the Barnwell Nuclear Fuel Plant are set forth on pages 2 and 3 of the Amended Petition and include the possible harm which may be caused to organic foods grown for Petitioner on its farm near Peak, South Carolina, by releases from shipments of nuclear material to Barnwell along transportation routes in proximity to said farm. The majority of Petitioner's members live in the Columbia, South Carolina, vicinity where Petitioner conducts its organic food business. With regard to a showing that at least one member of Petitioner resides in proximity to the Barnwell Nuclear Fuel Plant, Petitioner's counsel, Mr. Holmes, at Tr. 81, indicated that a member of Petitioner lived in Barnwell, South Carolina, and had an interest in this proceeding. Although the individual has not been identified because Petitioner's members have views considered dissident within the State of South Carolina, Petitioner stands ready to identify its Barnwell member if requested to do so by the Board (Tr. 82).

On October 16, 1975, permission was granted to Petitioner to further amend its Petition for leave to Intervene as originally filed herein (Tr. 156-157). In accordance with the discussions held on the record at the October 16, 1975 prehearing conference, the NRC Staff (Staff) met with Petitioner to discuss the contents of an amendment to the petition which might consolidate and particularize the contentions. These discussions proved fruitful and Petitioner has filed its "Amendments to Petition to Intervene in Materials Licensing

Proceeding" (Second Amended Petition) dated October 31, 1975, where Petitioner sets forth its amended contentions A, B, and C.

The Staff supported the granting of the Amended Petition filed by Pickens Street and now also urges that the Second Amended Petition be granted, taking the position that it satisfies the various concerns expressed by the Licensing Board in its Memorandum and Order of October 1, 1975, regarding the interests of Petitioner. In addition, the Staff believes that two of the three contentions asserted by Pickens Street are stated with sufficient particularity pursuant to the requirements of 10 CFR §2.714.

The Applicants oppose the petition as they did the earlier petitions, taking the position that (i) there has not been any significant showing of interest to entitle Pickens Street to intervene in this proceeding with respect to any contention which has been proffered by the Petitioner and (ii) each of the three contentions proffered is too vague and therefore fails to meet the specificity requirements of 10 CFR §2.714.

The Amended Petition states that 221 Pickens Street Organization is an unincorporated association organized at Columbia, South Carolina in January, 1973. To implement a program of the organization aimed at the study of diet, nutrition and alternative food sources, Petitioner operates a vegetarian restaurant which serves meals daily to members of the organization and of the general public in the Columbia area. On adjoining premises, Petitioner also operates a Juice Bar and Natural Foodstore in which it sells organic foods grown on a farm operated by Petitioner near Peak, South Carolina, approximately 23 miles northwest of Columbia adjacent a main railroad line which passes through Columbia. In addition, some of the food sold comes from areas which are along the travel routes of spent fuel and from the vicinity of the Barnwell Fuel Receiving and Storage Station itself.

The Board concludes that Pickens Street has shown the requisite interest in this proceeding. While the majority of Petitioner's members live in Columbia where Petitioner conducts its organic food business, at least one member lives in Barnwell, South Carolina, in close proximity to the Barnwell Nuclear Fuel Plant. By affidavit the legal authorization of representatives to act on behalf of Petitioner has now been shown.

In its study of the Second Amended Petition filed by 221 Pickens Street Organization, the Board has determined that the petition includes at least one relevant contention which is set forth with reasonable specificity and with some basis assigned for it, so as to at least minimally meet the threshold requirements of 10 CFR §2.714(a) and (b). Specifically, Contention A, which appears to be amenable to suitable particularization, alleges error in the predicted releases from the Barnwell Fuel Receiving and Storage Station. It is emphasized however, that the only matter decided at this time is that, as stated, the above contention is adequate to entitle Petitioner to intervene in the proceeding. It remains for this Petitioner to establish, to the satisfaction of the hearing Board, which of its

proposed contentions are genuine issues suitable for adjudication. If the Board is not so satisfied, it may summarily dispose of the proposed contentions on the basis of the pleadings, 10 CFR §2.749.

## STATE OF GEORGIA

By motion dated October 31, 1975, the State of Georgia has requested that it be allowed to participate in this proceeding as an interested State under the provisions of 10 CFR §2.715(c). The NRC Staff has supported this request.

The State of Georgia is admitted and may participate in the hearing as an interested state pursuant to the provisions of 10 CFR §2.715(c).

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act, as amended, and the Rules of Practice of the Nuclear Regulatory Commission, that the amended petition for leave to intervene filed by 221 Pickens Street Organization is *GRANTED* and Petitioner Pickens Street is admitted as a party to this proceeding. The petition for leave to intervene filed by the American Civil Liberties Union of South Carolina is *DENIED.* The request by the State of Georgia to participate in this proceeding as an interested state pursuant to 10 CFR §2.715(c), is GRANTED.[17]

In accordance with the provisions of 10 CFR §2.714a of the Commission's "Rules of Practice" this Order may be appealed to the Atomic Safety and Licensing Apeeal Board of the United States Nuclear Regulatory Commission within five (5) days after service of the Order. Any appeal shall be asserted by the filing of a notice of appeal and accompanying supporting brief. Any other party may file a brief in support of or in opposition to the appeal within five (5) days after service of the appeal.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Robert M. Lazo, Chairman

Dated at Bethesda, Maryland
this 25th day of March 1976.

[17]On October 1, 1975, the Board granted the Petition for leave to intervene filed on behalf of Environmentalists, Inc., *et al.*, (Joint Intervenors) and admitted them as a party to this proceeding. At the same time a request by the State of South Carolina to participate as an interested state was granted. (LPB-75-60, NRCI-75/10, at 689).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-321

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY and KANSAS CITY POWER AND LIGHT COMPANY

(Wolf Creek Nuclear Generating Station, Unit No. 1)

Upon directed certification of questions raised by the Licensing Board's ruling that applicants could not commence off-site construction of a railroad spur and access road associated with the facility prior to the issuance of a limited work authorization, the Appeal Board rules: (1) that the Licensing Board had jurisdiction to determine whether the applicants were entitled to engage in certain activities prior to the issuance of a limited work authorization; and (2) on the merits, that the construction of the facilities here involved is, insofar as the present record indicates, an activity which falls within the Commission's regulatory jurisdiction and thus requires advance Commission approval in some form.

Provisional determination to direct certification confirmed; rulings of the Licensing Board on the certified questions affirmed.

ADMINISTRATIVE TRIBUNALS: JURISDICTION

As in the federal courts, an administrative agency has the authority to determine whether it has been empowered to pass upon a particular matter; stated otherwise, it has jurisdiction to determine its own jurisdiction.

LICENSING BOARDS: JURISDICTION

A licensing board has the authority to rule on whether, to what extent, and for what purpose particular matters are subject to the Commission's regulatory jurisdiction (and thus may be brought before it).

ADMINISTRATIVE TRIBUNALS: DECLARATORY RELIEF

Declaratory relief provides a remedy where there previously was none by allowing a party to initiate a proceeding to test the lawfulness of its proposed conduct.

RULES OF PRACTICE: DECLARATORY RELIEF

A motion in an ongoing Commission proceeding to test a licensing board's jurisdiction is not a request for a declaratory order as that term is used in the Administrative Procedure Act, 5 U.S.C. §554(e); it is no more than an administrative counterpart to a motion to dismiss or for partial summary judgment for want of subject matter jurisdiction. See *Marble Hill*, ALAB-316.

RULES OF PRACTIVE: DECLARATORY RELIEF

The Commission's regulations implementing the Administrative Procedure Act authorize a licensing board to issue declaratory orders in appropriate circumstances, including where necessary to avoid delay in the conduct of a hearing. 5 U.S.C. §§554(e), 556(c) (9); 10 C F R §2.718.

LICENSING BOARD: DELEGATED AUTHORITY

The restriction imposed by 10 C F R §50.3 on the interpretation of Commission regulations by any Commission officer or employee other than the General Counsel does not limit the authority of a licensing board to interpret regulations in the course of exercising its authority.

NUCLEAR REGULATORY COMMISSION: ENVIRONMENTAL RESPONSIBILITIES

The enactment of NEPA substantially broadened the environmental responsibilities of the Atomic Energy Commission (later the Nuclear Regulatory Commission). *Detroit Edison Company* (Greenwood Units 2 and 3), ALAB-247, 8 AEC 936 (1974).

NEPA: SCOPE OF INFORMATION REQUIRED FOR LICENSING

NEPA makes environmental protection a part of the mandate of every federal agency, and its broad sweep compels consideration of any and all types of environmental impact of federal action. *Calvert Cliffs Coordinating Comm.* v. *United States Atomic Energy Commission*, 449 F. 2d 1109 (D.C. Cir. 1971).

Under NEPA, the Commission must consider and protect against any foreseeable environmental consequences—whether associated directly with the plant or with adjuncts such as the discharge of heated water, the construction of transmission lines, or the building of passageways for transporting construction materials—which proceed ineluctably from construction or operation of a federally-licensed nuclear power facility.

## NEPA: COST-BENEFIT BALANCE

NEPA requires the Commission, before the final cost-benefit balance is struck, to minimize environmental harm as a result of nuclear facilities to the extent reasonably practicable. It is not enough that the overall balance be favorable; beyond that, any environmental harm, even if not sufficient to justify rejection of an entire proposal, must be minimized to the greatest extent possible consistent with other relevant values. *Detroit Edison Company* (Greenwood Units 2 and 3), ALAB-247, 8 AEC 936 (1974).

## NEPA: CONSIDERATION OF ALTERNATIVES

A decision concerning the optimum alternative for a particular subsystem cannot ignore the relationship between that subsystem and other portions of the facility. Changes which confer environmental benefits in one area have to be examined for possible adverse environmental or safety consequences that might thereby be incurred elsewhere.

## RULES OF PRACTICE: CONSTRUCTION

In analyzing Commission regulations, context and purpose outweigh syntax. Particular language in a section or subsection should be viewed in light of the purposes of that section of subsection, and interpretation which conflict with broad Governmental policy, such as that contained in NEPA, are to be avoided.

**Mr. Jay E. Silberg (Mr. Gerald Charnoff** with him on the briefs), Washington, D.C., for the applicants, Kansas Gas and Electric Company, *et al.*

**Mr. Frederic S. Gray (Mr. Thomas Bruen** with him on the brief) for the NRC Staff.

## DECISION

### April 7, 1976

**Opinion of the Board by Mr. Farrar, in Parts I and III of which Dr. Buck joins and in Parts II and III of which Chairman Rosenthal joins.**

The question which we are now asked to decide is whether a utility company seeking permission to construct a nuclear power facility must await receipt of at least a limited work authorization before it may build, off its own property, a proposed railroad spur and access road to be associated with that facility. The question came to the fore when the two applicants for a permit to construct Unit 1 of the Wolf Creek Generating Station filed a motion with the Licensing Board which is considering their application. The applicants sought a ruling that they were free to commence construction of the railroad spur and access road even though it could be several months before the Board might make the findings prerequisite to the issuance of a limited work authorization.[1] The Board below was told that such a conclusion was mandated by both the terms of the relevant Commission regulations and the want of any statutory responsibility on the part of the Commission to regulate activities of the type in question.

In its answer to the motion,[2] the NRC staff asserted that the Commission has regulatory jurisdiction over so-called "off-site" activities associated with the construction of a nuclear power facility and that its regulations, adopted to implement the National Environmental Policy Act, prohibit such activities before Commission approval is obtained. The staff urged the Board, however, that the question was one best considered directly by the Commission, and thus suggested it be certified under 10 CFR §2.718(i). Its reason for doing so was the pendency of a petition for rulemaking (PRM-50-15) which calls upon the Commission to amend 10 CFR §50.10 to provide explicitly that Commission approval is not a precondition to engaging in "off-site" construction activities. According to the staff, the question posed by the applicants' motion appropriately should be considered by the Commission in conjunction with the petition for rulemaking "in view of the identity of issues raised."[3]

Additionally, in a footnote, the staff's answer suggested the possible lack of Licensing Board jurisdiction to entertain the motion on the merits. Claiming that the motion was "essentially a request for declaratory relief," the staff expressed

---

[1] See 10 CFR §50.10(e)(2).

[2] The staff's answer was later endorsed by one of the intervenors in the proceeding, Mid-America Coalition for Energy Alternatives.

[3] Presumably, had the Licensing Board immediately certified the question to us under 10 CFR §2.718(i), the staff would have asked us to send it to the Commission under 10 CFR §2.785(d). See fn. 6, *infra*.

some doubt respecting whether licensing boards have been delegated the Commission's conceded authority to issue declaratory orders.[4]

On January 7, 1976, the Licensing Board denied the motion. Determining both that it was empowered to decide the question posed by the applicants and that it should do so, the Board went on to hold that the type of construction activity involved here is within the ambit of the Commission's review of the environmental impact of a nuclear power facility. Although declining to refer that holding to us under 10 CFR §2.730(f), the Board suggested that the applicants might wish to seek to obtain a directed certification from us.[5]

The applicants adopted that suggestion. In response, we entered an order on January 22, 1976 which provisionally directed certification. At the same time, we requested briefs from the parties addressing both (1) the jurisdiction of the Licensing Board and this Board to grant the relief sought by the applicants and (2) the merits of the controversy.[6] Briefs were duly filed by the applicants and the staff and oral argument was thereafter held. We conclude—albeit by a different majority on each issue—that the Licensing Board reached the correct result: (1) the Commission's boards are empowered to pass upon the merits of questions concerning whether certain activities are within the scope of pending adjudicatory proceedings;[7] and (2) on the merits, the construction of the facilities here involved is, insofar as the present record indicates, an activity which falls within the Commission's regulatory jurisdiction and which thus requires advance approval in some form. We set forth the reasoning behind those conclusions in Part I (from which Chairman Rosenthal dissents) and Part II (from which Dr. Buck dissents) of this opinion. We then go on in Part III to indicate what remedies remain available to the applicants.

---

[4] The staff did take note of the "broad language" of 10 CFR §2.718*(l)*, which authorizes licensing boards to "[t]ake any * * * action consistent with the [Atomic Energy] Act, [the regulations in] this chapter, and sections 551-558 of title 5 of the United States Code." See pp. 302-303, *infra.*

[5] See *Public Service Co. of New Hampshire* (Seabrook Units 1 and 2), ALAB-271, NRCI-75/5 478, 482-83 (May 21, 1975).

[6] In that same order, we rejected the staff's suggestion that the pendency of the proposed rule making justified certifying the merits directly to the Commission (see fn. 3, *supra*). Although the Commission may have the matter before it in a generic context, these applicants need an early determination of the question to avoid mootness. *Cf. Long Island Lighting Company* (Shoreham Station), ALAB-99, 6 AEC 53, 57, fn. 19 (1973), and ALAB-156, 6 AEC 831, 833, fn. 16 (1973).

[7] In its brief to us, the staff recommended that this question also be certified to the Commission on the ground it "is exceedingly close and represents a major question of law and policy." *Cf.* fns. 3 and 6, *supra*. That the staff believes the question a hard one does not warrant our failing to fulfill our responsibility to decide it. The Commission, of course, has the right to review our decision should it desire to do so.

## I

On first reading the preliminary papers filed in the case, we characterized what the applicants were seeking as

> In essence * * * *a declaratory judgment that*, without regard to the on-going construction permit proceeding or any determinations which may be made therein with respect to their entitlement to a construction permit or a limited work authorization, *they are free to take certain action.*

January 22, 1976 Order, p. 2 (emphasis added). In line with that characterization, we called for briefs on the question whether the Commission's adjudicatory boards "are empowered to grant declaratory relief of that character." *Id.* at 2-3.

Having studied the matter further, we now conclude that the relief sought was not "declaratory" in nature. In any event, we also conclude that the licensing boards have been empowered to pass on requests of this sort, even if they must be viewed as involving declaratory relief. In short, the boards do indeed have jurisdiction to reach the merits of a question such as that posed by the applicants here. Two lines of reasoning lead us to this conclusion.

The first is that the relief sought is not "declaratory" in the sense that that term is used in either federal court practice or the Administrative Procedure Act. Our prior characterization of it as such was improvident. All that is involved is a ruling by the Board on the extent of its own subject matter jurisdiction under the National Environmental Policy Act. Rulings on subject matter jurisdiction can be and are routinely made by both judicial and administrative tribunals, without regard to and quite apart from any authorization they may have to issue declaratory judgments or orders. A tribunal always has jurisdiction to decide the extent of its own authority.

Second, even if we were to agree with our dissenting colleague that "declaratory" relief is being sought, the Commission's regulations empower its boards to entertain requests for such relief, at least in the type of situation presented here. The Administrative Procedure Act expressly confers on agencies the authority to issue "a declaratory order to terminate a controversy or remove uncertainty." 5 U.S.C. 554(e). The Commission, in turn, has specifically enjoined its boards "to take appropriate action to avoid delay" and has given them "all powers necessary to [that end]," including the power to take action consistent with, *inter alia*, the Administrative Procedure Act. 10 CFR §2.718. A prehearing ruling as to whether and to what extent particular aspects of a project are subject to regulation is certainly one way to avoid delay in the conduct of a proceeding, for it will assist measurably in determining which topics may and which may not be considered at the hearing. Thus, even if such a ruling be called "declaratory," it is a permissible one.

In view of the Chairman's dissent, the two reasons just summarized warrant further discussion. We develop each of them in more detail below.

A. Although initially the applicants did not denominate their request as one seeking "declaratory" relief, both parties characterized it as such at the oral argument. Nonetheless, we believe that characterization is neither important nor particularly useful; to the contrary, it only serves to obscure what is really before us. We take our cue in this respect from the Supreme Court's seminal decision on the extent of the federal judicial power in declaratory judgment cases:

> In determining whether this litigation presents a case within the appellate jurisdiction of this Court, we are concerned, not with form, but with substance. * * * Hence, we look not to the label which the legislature has attached to the procedure followed in the state courts, or to the description of the judgment which is brought here for review, in popular parlance, as "declaratory," but to the nature of the proceeding which the statute authorizes, and the effect of the judgment rendered upon the rights which the appellant asserts. [citations omitted].

*Nashville, Chattanooga & St. Louis Railway* v. *Wallace,* 288 U.S. 249, 259 (1933). See also *United States* v. *King,* 395 U.S. 1 (1969), discussed in fn. 11, *infra.* We too, must look to substance. The procedures of administrative agencies are supposed to be more, rather than less, flexible than those of the courts. That being so, we should be even more reluctant than the courts to let our decisions be governed by labels, particularly when the use of those labels does not aid our understanding of the questions brought before us.

The Chairman's dissent would have it that the applicants are seeking declaratory relief on a matter that is "wholly independent of the construction permit proceeding." We do not see it that way. Rather, in substance the applicants have simply asked the Licensing Board to rule on whether its authority over the on-going licensing proceeding extends to certain activities which are an incident of reactor construction.

In other words, the applicants seek only to have the Board rule on the extent of its own subject matter jurisdiction. Federal courts—traditionally quite conscious of limitations on their jurisdiction—do this as a matter of course and do not consider that they are rendering declaratory judgments when they do so. In short, a court always has the authority to determine whether it has been empowered to pass upon a particular matter; stated otherwise, a court has jurisdiction to determine its own jurisdiction.[8] The same rule applies generally to

[8] *United States* v. *United Mine Workers of America,* 330 U.S. 258 (1947). See Wright, *Law of Federal Courts,* §16.

federal agencies.[9] There is no apparent purpose to be served by creating a different rule here (see pp. 303-304, *infra*), and we will not strain to do so by characterizing what is a routine jurisdictional ruling as an arguably impermissible declaratory order. We hold—and would do so even if we believed, as does the Chairman, that declaratory orders are forbidden—that a licensing board has the authority to rule on whether, to what extent, and for what purpose particular matters are subject to the Commission's regulatory jurisdiction and thus may be brought before it.[10] Indeed, we suggest that the Board must do so in order to carry out the responsibilities delegated to it.

In this connection, we note that boards routinely make such rulings in the course of conducting licensing proceedings. Indeed, the system contemplates that they will do so. The Rules of Practice state that "contentions relating * * * to matters outside the jurisdiction of the Commission" cannot be entertained, and it is the boards which must pass on the legitimacy of contentions. See 10 CFR §2.714(b). Questions such as that posed by the applicants here thus may arise as a result of, *e.g.*, an intervenor's attempt to get particular contentions admitted into controversy, or a staff proposal to condition a license in a certain fashion. Rulings which are within a board's power to make at the behest of one party cannot fairly be regarded as outside a Board's jurisdiction because made at the behest of another.

The substance of the motion which the applicants filed falls into the category discussed above. Thus, the Board was empowered to consider that motion on its merits. This conclusion is not affected by the fact that the applicants asked the Board to rule that they could proceed with construction prior to issuance of a limited work authorization. Whether or not the Board was empowered to issue a ruling in precisely those terms, it could address the thresh-

---

[9] See *Weinberger* v. *Hynson, Westcott & Dunning*, 412 U.S. 609, 627 (1973), where the Court indicated that an agency's "jurisdiction to determine whether it has jurisdiction is as essential to its effective operation as is a court's like power."

[10] No party has suggested that a board passing upon whether it had jurisdiction over the activities at issue here would run afoul of the Commission's disclaimer that "no interpretation of [its] regulations * * * by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission." 10 CFR §50.3. Out of an abundance of caution, however, the applicants briefed the question. We need observe only that the Commission's warning, which serves other purposes so obvious as not to need discussion here, has never been viewed as limiting the authority of adjudicatory boards to interpret regulations in the course of dispatching their assigned duties.

old question presented,[11] *i.e.*, whether the particular activities of interest to the applicants fell within the scope of the Board's authority; indeed, it ought to do so. Certainly, we should not deprive an applicant of the substance of the relief it seeks—a ruling on the scope of the Board's authority—simply because it candidly informed the Board and the other parties that it intends to put that ruling to use beginning work on those activities held to be outside the ambit of the licensing proceeding.[12]

In sum, a "declaratory order," like its judicial analogue the declaratory judgment, is simply of a different breed than what is sought here. Congress gave the agencies (and the courts) authority to issue such "declaratory" relief to take care of a specific situation: the case where a party had no avenue open to discover whether a proposed course of conduct violated the law or his obligations except by acting at his peril. Declaratory relief provided a remedy where

---

[11] Compare *United States* v. *King*, 395 U.S. 1 (1969), cited by our dissenting Chairman. The dispute in *King* involved the extent of the jurisdiction of the Court of Claims. Although the Supreme Court held that Congress had not conferred declaratory judgment jurisdiction upon the Court of Claims, that holding is irrelevant to the question of whether the Commission has conferred such jurisdiction on its licensing boards (see pp. 302-303, *infra*). And the reasoning the Supreme Court employed in reaching that decision actually supports our conclusion that it is not a declaratory judgment that is involved here. There, the plaintiff was seeking a money judgment. Although the Court of Claims has jurisdiction over claims of that nature, the Supreme Court looked not to the ultimate relief sought by the plaintiff but to the nature of the underlying claim which he would have to establish in order to prove entitlement to an award of money. Finding that claim to be equitable in nature, the Supreme Court held it to be outside the Court of Claims' jurisdiction. 395 U.S. at 3. In other words, what the plaintiff called a claim for *money*, the Supreme Court held to involve in substance an impermissible request for declaratory relief on an *equitable* claim. Here, what the parties have called a claim for declaratory relief turns in substance on a question concerning the scope of the Board's subject matter jurisdiction under NEPA. As we have pointed out, the Commission's adjudicatory tribunals—created to handle all aspects of licensing proceedings which would otherwise be entrusted to the Commission itself—are free, as are the courts, to rule on matters of their own subject matter jurisdiction.

[12] We see no danger that our ruling might lead to abuse at the hands of other, less scrupulous, applicants. To be sure, such an applicant might mask its true intentions and, under the guise of obtaining nothing more than a prehearing ruling limiting the issues, covertly gain a go-ahead to engage in certain construction activity. And the other parties might disagree with such a ruling but think it of insufficient practical significance to warrant any attempt to have it reviewed. Presumably, however, counsel for the other parties will not ordinarily be so unaware of what is occurring. In any event, any construction activity should not go unnoticed for long; once it is detected, the device of certification or referral could be employed to attempt to obtain review of any allegedly incorrect interlocutory order which was being utilized as a justification for activity causing environmental injury. An order being used for that purpose may even be considered sufficiently "final" to justify an appeal as of right. See *Cohen* v. *Beneficial Industrial Loan Corp.*, 337 U.S. 541, 545-47 (1949).

there previously was none by allowing a party to test the lawfulness of its proposed conduct before acting *by initiating a proceeding for that purpose.* See, Report of the Attorney General's Committee on Administrative Procedure,[13] pp. 30-33; Attorney General's Manual on the Administrative Procedure Act (1947), p. 60: "Since the issuance of declaratory orders is a matter of sound discretion, it is clear that an agency need not issue such orders where it appears that the questions involved will be determined in a pending administrative or judicial proceeding * * *"; *Aetna Life Ins. Co. of Hartford* v. *Haworth*, 300 U.S. 227 (1937); *Abbott Laboratories* v. *Gardner*, 387 U.S. 136, 152-53 (1967). Here, however, we have an ongoing proceeding already initiated by the Commission. A motion in such a proceeding to test the tribunal's jurisdiction is simply not a request for a "declaratory order" in the sense of the APA; it is no more than an administrative counterpart to a motion to dismiss or for partial summary judgment for want of subject matter jurisdiction.[14]

B. Even if the only way to characterize the applicants' motion were as a request for declaratory relief, we would not hold that the Board below lacked authority to reach the merits of that request. The Administrative Procedure Act in terms gives to each agency the authority to "issue a declaratory order to terminate a controversy or remove uncertainty." 5 U.S.C. 554(e). And there is no doubt that the exercise of this power was not to be restricted to the agency heads themselves, for the APA gives broad authority to the "employees presiding at hearings" as well. Specifically, their authority includes, in addition to several enumerated powers, the power to "take other action authorized by agency rule consistent with" the APA. 5 U.S.C. 556(c) (9). Because an agency rule empowering presiding officers to issue declaratory orders would be consistent with the APA, no barrier stands in the way of the Commission clothing its boards with authority to issue declaratory orders. What we need determine, then, is only whether it has done so.

For this purpose, our examination of the Commission's regulations begins and ends with 10 C F R §2.718. In terms, that regulation gives the boards "all powers necessary" to accomplish their "duty * * * to take appropriate action to avoid delay." Then, as if to emphasize that "all" powers are conferred, it enumerates certain powers but concludes by giving boards the authority to "take *any* other action consistent with" the Atomic Energy Act, the Commission's other regulations, and the Administrative Procedure Act. 10 C F R §2.718*(l)* (emphasis added).[15] Thus, the type of power conferred seems expansive enough

[13] S. Doc. No. 8, 77th Cong., 1st Sess. (1941).

[14] See *Public Service Company of Indiana* (Marble Hill Units 1 and 2), ALAB-316, NRCI-76/3 167, 168-170 (March 3, 1976).

[15] Specifically, the regulation refers to the APA not by name but as "Sections 551–558 of title 5 of the United States Code." The statutory provision authorizing agencies to issue declaratory orders is included within those sections.

to include the rendering of declaratory orders; the question comes down to whether the exercise of that power can be tied to the fulfillment of the board's duty to take appropriate steps "to avoid delay."

We decide that question on a narrow ground. In the first place, we need not and do not pass upon whether the Section 2.718 reference to avoidance of delay was intended—as the applicants urge—to encompass delay not only in the conduct of the hearing but also in the construction or operation of the plant. Secondly, we do not have to determine whether *all* types of declaratory orders could be justified in the interest of achieving expedition in the handling of a licensing proceeding. We need not venture into these perhaps troublesome waters because there is simpler justification for the exercise of jurisdiction by the board below in this case. Accordingly, we limit ourselves to deciding that a board which has issued a "declaratory" order dealing with the extent of its own jurisdiction can be fairly said to have taken "appropriate action to avoid delay" in the conduct of the hearing.

Surely this holding will not be surprising to anyone familiar with Commission hearings or, for that matter, with nearly any judicial or administrative proceedings. It invariably will delay a proceeding if the parties are either permitted or required to become concerned over extraneous topics, whether at the hearing itself or in the prehearing stages. Time spent by the parties in sparring with each other over discovery into matters outside the board's jurisdiction, or in preparing and adducing testimony on matters which a board should not be considering, will ineluctably lend to delays in the commencement of hearings and extend their duration. (It can also have the effect of lowering the quality of the presentations on the issues which the board properly should be addressing.) In contrast, early identification by the board of which (and to what extent) subjects are to be considered is an appropriate—indeed necessary—way to minimize and to avoid subsequent delays in the proceeding. Even if, as the applicants now say, the boards are free to consider environmental consequences in the balance,[16] the hearing would still be shortened if the board were to rule that it lacked the authority to condition the building of the railroad spur and access road and that the applicants were free to proceed with construction of those facilities. For in that event there would be no need for the in-depth consideration of alternatives that there would be if the board were considering conditioning the grant of the permit on adoption of alternative routes for the facilities.

The result we reach follows, we think, from the plain language of the governing statute and regulation. We need add only that we have not been directed to, nor are we aware of, anything which furnishes the slightest indica-

[16] See pp. 307-308, *infra*.

tion that the Commission might have intended that the regulation be read differently. As the staff's brief and the Chairman's dissent make clear, whatever policy considerations are involved strongly support the view that the boards should have the authority to pass on questions such as that presented here.[17]

---

A majority of this Board having concluded that the question posed by the applicants was one the Licensing Board was empowered to answer, we turn to the merits of that question, *i.e.*, whether and to what extent the Commission has jurisdiction over an applicant's "off-site" construction activities. By a different majority, we conclude that the Board below also reached the correct result in that respect.

## II

The merits of the controversy which the applicants have brought before us involve the extent to which the National Environmental Policy Act has conferred jurisdiction on the Commission (and its licensing boards) over service facility construction which, although directly associated with and attributable to a nuclear power plant, occurs away from its immediate location.[18] The Commission has adopted regulations implementing NEPA which limit the construction activity which an applicant may undertake in advance of its receipt of Commission approval. The applicants say those regulations are concerned only with activity on their own land; the staff claims that extra-territorial activity is covered as well.

A. Our analysis begins, not with the disputed regulations, but with NEPA itself. For, in enacting the regulations, the Commission was attempting to fulfill its obligations under NEPA. Because compliance with NEPA's mandates is not optional with federal agencies, an appreciation of the extent of NEPA's reach should assist in ascertaining the intended scope of the Commission's implementing regulations.

This is not the first time a problem of this nature has come before us. We discussed the reach of NEPA in a related context in ALAB-247, the *Greenwood*

---

[17] Staff brief, pp. 11-12 (February 9, 1976), quoted at p. 321, *infra*.

[18] The applicants concede that a close relationship exists here between the nuclear plant and the proposed construction activity. The railroad spur, we are told, is a critical path item required in order "that heavy construction items can be brought" in, while the access road is needed for "efficient transport of men and materials * * *" to the construction area once work begins. No claim is made here that these traffic arteries are sufficiently remote from the plant to warrant treating them as part of the general transportation system. In that respect, they are akin to a transmission line running from the plant to the basic power grid. See *Greenwood*, ALAB-247 (*infra*, fn. 19), 8 AEC at 939.

decision.[19] The issue there concerned the extent of the Commission's jurisdiction over transmission lines leading from a nuclear facility. What we said there concerning the impact of NEPA on the regulatory activities of the Commission (8 AEC at 938) bears repetition here:

> The Atomic Energy Act makes it unlawful to build or operate a commercial nuclear power generating facility without first obtaining a Commission license to do so. 42 U.S.C. § §2131-33 (1970). Licenses for such "utilization facilities" may be granted by the Commission "subject to such conditions" it believes necessary to carry out the purposes of the Act. 42 U.S.C. §2133(a). Before the National Environmental Policy Act became effective on January 1, 1970, "Congress [had] viewed the responsibility of the Commission as being confined [under the Atomic Energy Act] to scrutiny of and protection against hazards from radiation," and the Commission was not expected to freight construction permits or operating licenses with conditions to guard against nonradiological disruptions of the environment. *New Hampshire* v. *Atomic Energy Commission*, 406 F. 2d 170, 175 (1st Cir.), certiorari denied, 395 U.S. 962 (1969).
>
> NEPA's enactment substantially broadened the enironmental responsibilities of the Federal Government by making the policies of that Act "supplementary to those set forth in existing authorizations of Federal agencies." 42 U.S.C. §4335. The Atomic Energy Commission was not excepted. In a landmark decision, the District of Columbia Circuit ruled that "NEPA, first of all, makes environmental protection a part of the mandate of every federal agency and department," and that the "sweep of NEPA is extraordinarily broad, compelling consideration of any and all types of environmental impact of federal action." *Calvert Cliffs Coord. Com* v. *United States Atomic Energy Commission*, 449 F. 2d 1109, 1112, 1122 (1971). That ruling has been accepted and applied in weighing whether to permit such activities as filling tidelands, bridging streams, guarantying loans, raising rates, or abandoning railroads. In making those decisions, it is settled that the responsible federal officials must place in the balance, in addition to all the usual economic and technological considerations, the consequences their actions will entail for the people and places they affect. In short, every federal agency—including this one—is obliged to evaluate the "reasonably foreseeable environmental impact" of its proposed actions. It must then decide in light of those ramifications whether any given action should be allowed to go forward. *Scientists' Inst. for Pub. Info., Inc.* v. *Atomic Energy Com'n*, 481 F. 2d 1079, 1091-92 (D.C. Cir. 1973). [footnote omitted].

[19] *Detroit Edison Company* (Greenwood Units 2 and 3), ALAB-247, 8 AEC 936 (1974).

As we see it, then, enactment of NEPA broadened the Commission's mandate in the following manner: where previously the Commission was to issue its permits and licenses "subject to such conditions" as were necessary to carry out the purposes of the Atomic Energy Act, it now must subject those same authorizations to such conditions as will effectuate the purposes of NEPA as well. In other words, its responsibility now includes "scrutiny of and protection against" environmental damage as well as radiation hazards.[20] The result is that, under NEPA, the Commission must consider and protect against any foreseeable environmental consequences—whether associated directly with the plant or with adjuncts such as the discharge of heated water, the construction of transmission lines, or the building of passageways for transporting construction materials—which proceed ineluctably from construction or operation of a federally-licensed nuclear power facility.

Our dissenting colleague takes a narrower view of the changes wrought by NEPA. As he sees it, the Commission's jurisdiction under the Atomic Energy Act extends only to those aspects of the proposed project which have safety implications. ALAB-247, *supra*, 8 AEC at 947-50 (dissenting opinion); p. 324, *infra* (dissenting opinion). From that, he reasons that only those aspects which are subject to safety surveillance are subject to the Commission's regulation under NEPA (*ibid.*).[21]

As we see it, this approach is unduly restrictive. The better view of the Commission's role under the Atomic Energy Act is that it was to protect the public from any radiation hazards caused by or stemming from the licensing of nuclear power plants. In turn, then, NEPA gave it control over any environmental consequences stemming from such licensing. There being no necessary correlation between those portions of a project which might pose safety problems and those which might cause environmental degradation, we do not see how the purposes of either the Atomic Energy Act or NEPA would be served by attributing to Congress an intention to ban environmental review of a particular aspect of a federally-licensed nuclear power project if that particular aspect did not also pose radiation hazards.[22] Congress painted with a broader brush than that in enacting NEPA.

---

[20] *Cf. New Hampshire* v. *A.E.C.*, *supra*, 406 F. 2d at 175.

[21] Dr. Buck indicates that, whatever may be said of the safety significance of the transmission lines in *Greenwood*, no safety issues could arise concerning the location of a railroad spur and an access road (see p. 324, *infra*). We are not as certain this is so; but we need not discuss the matter here, for we place our decision on a different ground.

[22] In *Greenwood*, we needed to go only so far as to hold that the Commission could regulate the environmental consequences of those aspects of the project which it could also reach under its Atomic Energy Act jurisdiction. Thus, we did not have to reach the broader question involved here. Nothing in the *Greenwood* opinion was intended to imply a belief—which we now expressly disclaim—that only those features of the plant involving radiation hazards are subject to NEPA's full reach.

In this connection, it might be noted that nothing of any significance to the issue before us appears in the two judicial decisions relied upon by our dissenting colleague in support of his view of the limited nature of the changes brought about by NEPA.[23] In *Kitchen* v. *FCC*, 464 F. 2d 801 (D.C. Cir. 1972), the claim was that the FCC should have conducted an environmental review of the construction of a local telephone exchange. The Court of Appeals rejected that claim on the ground that under the Communications Act such facilities did not need the FCC's approval at all.[24] Since the FCC thus had no licensing jurisdiction whatsoever, there was no federal action involved in the construction or operation of that facility and, consequently, NEPA did not apply. That is, of course, not the case with the licensing action involved here.

The other decision relied upon, *Gage* v. *A.E.C.*, 479 F. 2d 1214, 1220, fn. 19 (D.C. Cir. 1973), did no more than cite with approval the *Kitchen* statement that NEPA does not mandate action that goes beyond an agency's organic jurisdiction. The court made this comment in connection with its discussion of the problem of a utility's acquiring property *prior* to the time an application to build a nuclear facility is filed. As in *Kitchen,* no federal action was then involved; in recognition of that fact, the court went on to indicate that "intervention to prevent environmental harm from private and non-federal action * * * may very well go beyond the AEC's organic power * * *." *Ibid.* There is no suggesion here that purely private action is involved. That is, the applicants do not assert that construction of service facilities directly attributable to a nuclear power plant which is the subject of a pending application for a federal license represents purely private action.[25]

The applicants also argue that the most NEPA permits the Commission to do with respect to the environmental consequences in issue here is to consider them in the overall cost-benefit balance. Under their view, apparently adopted by the dissent here, the Commission is powerless to do anything about those consequences unless they are so significant as to tip the overall balance against the proposed plant. In other words, the Commission would be unable to do what it can do in the radiological field *i.e.*, condition project approval on the altera-

[23] See p. 323 *infra*, and 8 AEC at 950.

[24] Indeed, the Court held that Congress had affirmatively precluded the FCC from exercising jurisdiction over local telephone exchange buildings. 464 F. 2d at 803.

[25] The dissent's reliance upon the view (not necessarily valid) that there exists no organic safety jurisdiction over the location of the road and spur carves the question too finely. By the same token, it could have been said that the principle—established by judicial decision prior to NEPA—that there was no safety jurisdiction over the temperature of condenser cooling water prevented its regulation under NEPA. That argument, we know, did not prevail.

tion of any objectionable aspects of the proposal—and would instead be limited to an up-or-down vote on the project as a whole.

We addressed a similar claim in *Greenwood* (8 AEC at 944-45):

> Nor is the Commission's authority restricted, as the applicant would have it, to voting the license up or down depending on whether the overall "cost/benefit ratio" is tilted against the facility by the location of its transmission lines. On the contrary, under NEPA, an agency is also obliged to minimize to the extent reasonably practicable the environmental aftermath of its actions. *Environmental Defense Fund* v. *Corps of Engineers*, 492 F. 2d 1123, 1135 (5th Cir. 1974); *Environmental Defense Fund* v. *Froehlke*, 473 F. 2d 346, 353 (8th Cir. 1972); Council on Environmental Quality Guidelines, 40 CFR §1500.2(b) (1974 rev.). As the District of Columbia Circuit has succinctly put it:
>
> > Clearly, it is pointless to 'consider' environmental costs without also seriously considering action to avoid them. [*Calvert Cliffs, supra*, 449 F. 2d at 1128.]
>
> Our own decisions reflect that understanding. We have held that NEPA requires nuclear facilities to be designed to minimize environmental harm to the extent reasonably practicable before the final balance is struck. The cooling tower cases are a clear example. We have reiterated in those decisions that the relative environmental merits and costs of the various cooling systems be evaluated for each facility to insure "that the optimum alternative may be selected" before "[f]inally, an overall balancing of costs and benefits occurs . . ." *Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Nuclear Power Station), ALAB-179, RAI-74-2, 159, 175 (February 28, 1974); Accord, *Commonwealth Edison Company* (La Salle County Nuclear Station Units 1 and 2), ALAB-193, RAI-74-4, 423, 426-28 (April 15, 1974); *Cincinnati Gas and Electric Company* (William H. Zimmer Nuclear Station), ALAB-79, 5 AEC 342 (1972), and ALAB-84, 5 AEC 372 (1972). It would overturn those decisions to rule in this case that environmental damage which can be avoided at reasonable cost is nonetheless permissible, provided only that the ultimate, overall cost/benefit ratio remains favorable to a nuclear plant. Such a result is unwarranted; it would devitalize NEPA. We are neither prepared nor empowered to inter that Act. [footnote omitted].

In other words, the optimum alternative must be selected with respect to each discrete aspect of a proposed nuclear project—whether it be the cooling

system, the transmission lines, or the traffic arteries at issue here.[26] It is not enough that the overall balance be favorable; beyond that, any environmental harm, even if not sufficient to justify rejection of the entire proposal, must be minimized to the greatest extent possible consistent with other relevant values.[27]

We need add only that the case before us aptly demonstrates how total disorder could follow if we were to adopt the limitations the applicants would read into the authority conferred by NEPA. The applicants would have it that, even if it were suspected that construction of the proposed routes would lead to significant environmental damage, the Commission could neither tell them to desist nor condition the grant of a permit on the utilization of other available, feasible routes which would avoid or mitigate the environmental destruction. Under their view they could proceed to construct the routes, subject only to the Board's ultimately "considering" the adverse impact of the routes at the hearing.

We might be able to comprehend—although we still could not accept—an argument that the Board was powerless to consider such matters at all. But what possible purpose would be served if they were to "consider" the damage caused by already constructed routes? For example, after "considering" the matter the Board might conclude both that significant, irredressable environmental damage attended the construction of the selected routes and that that damage could readily have been avoided by selection of an alternative. But, quite apart from the Board's asserted lack of authority to do so, it would be too late to tell the applicants to select other routes or to take whatever other steps might avoid the damage.

---

[26] In saying this, we do not mean to depart from the principle, enunciated in *Consumers Power Co.* (Midland Units 1 and 2), ALAB-35, 4 AEC 711 (1971), that as far as safety matters are concerned "the efficacy of any subsystem cannot be determined by an examination of its technology alone but must be evaluated in terms of its interplay with other components and subsystems." 4 AEC at 712. In the environmental sphere as well, a decision concerning the optimum alternative for a particular subsystem cannot ignore the relationship between that subsystem and other portions of the facility Changes which confer environmental benefits in one area have to be examined for possible adverse environmental or safety consequences that might thereby be incurred elsewhere.

[27] It is surprising that this point is still in issue, for as long ago as *Calvert Cliffs'* it was presumably laid to rest. There the court indicated that NEPA requires that an agency consider "alternative measures which might alter the cost-benefit equation" or, stated otherwise, "all possible approaches to a particular project * which would alter the environmental impact and the cost-benefit balance"· that "alternatives must be considered which would affect the balance of values"· that "the point of the individualized balancing analysis is to ensure that, with possible alterations, the optimally benefical action is finally taken;" and that the Commission must "consider alterations which would further reduce environmental damage." 449 F 2d at 1114, 1123, and 1125.

The applicants answer by suggesting that, if the damage were bad enough, the Board might find that an otherwise favorable overall cost-benefit balance was tipped against the proposed plant. But it would be senseless in those circumstances to invoke the Board's power to turn down the proposal entirely. For this would mean that an otherwise acceptable plant would end up rejected because relatively minor changes were not made at the appropriate time. And even this drastic step would be unavailing, for the environmental harm would already have been incurred, and needlessly so. Moreover, the upshot could well be that the applicant would have to move to an alternative site less desirable for a nuclear plant. And service facilities, with their potential for causing environmental damage, would still have to be built there. We decline to adopt an interpretation of NEPA which could lead to such absurd results.

B. Having seen how NEPA must be read, we turn to consider the meaning of the Commission's implementing regulations. As noted earlier, the applicants claim that by those regulations the Commission intended to reach construction activity on an applicant's property only; the staff says that the locality of the work is not determinative as long as the activity is fairly attributable to the proposed facility.

Prior to the enactment of NEPA, the regulation in dispute here—10 CFR §50.10—provided that no one could, without a construction permit, "begin the construction of a production or utilization facility on a site on which the facility is to be operated." 10 CFR §50.10(b). In that connection, the regulation excluded from the definition of "construction"—and thus made it permissible to conduct without advance approval—*inter alia*, "site exploration, site excavation, preparation of the site for construction of the facility, including the driving of piles, and construction of roadways, railroad spurs, and transmission lines." 10 CFR §50.10(b)(1).

In the years since NEPA was enacted, Section 50.10 has been modified by the addition of several subsections. The first of those, subsection (c), indicated that, notwithstanding what subsection (b) would earlier have permitted to take place in advance of permit issuance, no one was to "effect commencement of construction of a production or utilization facility * * * on a site on which the facility is to be operated until a construction permit has been issued." While this language was not significantly different in itself from that contained in subsection (b), the new subsection was important because it went on to define "commencement of construction" broadly to include "any clearing of land, excavation or other substantial action that would adversely affect the natural environment of a site." It thus had the effect of banning much of what had previously been permitted.[28]

[28] Certain very limited types of activity, not relevant here, were still permitted.

From this regulatory scheme, the applicants draw the following conclusions. The pre-NEPA provision (subsection (b)) should be read as banning only "on-site" activities. The applicants would define the "site," for purposes of their application and most others, as that contiguous area of land which the utility company owns surrounding the reactor building.[29] Under their view, the exception carved out of subsection (b) for transmission lines and transportation routes was necessary only so that construction of those facilities could proceed on-site as well as off. In the same vein, they say that the post-NEPA provision (subsection (c)) should also be read as placing a ban only on "on-site" activity. For present purposes, the only relevant change they perceive as brought about by the Commission's implementation of NEPA was a ban, in advance of Commission approval, on the previously-allowable construction of on-site transmission lines and traffic arteries; they say such construction was permitted off-site both before and after NEPA.[30]

If all that we were called upon to do was act as grammarians parsing a sentence, the applicants' reading of the relevant provisions of the regulation might be found permissible. But when it comes to analyzing the Commission's regulations—or those of any agency—context and purpose outweigh syntax. We cannot disregard the fact that subsection (c) was designed to implement NEPA. To be sure, it copied the "on-site" language from subsection (b). But that fact need not be exalted. In view of the express exceptions set out in subsection (b), the "on-site" language was not particularly important to the purposes to be served by that subsection. We are unwilling to attribute any greater importance to it as far as subsection (c) is concerned, particularly when to do so would put the latter subsection on a collision course with NEPA.

There is another reason why the applicants' analysis is unacceptable. We can perceive no reason why the Commission would have thought that Congress intended it to deal severely with the environmental effects of transmission lines,

---

[29] See App. Bd. Tr. 27-28.

[30] Building on this line of reasoning, the applicants are able to discount entirely, for purposes of the issue presented here, the reference to construction of service facilities in the recently-added subsection (e). That provision allows an applicant to perform certain construction tasks, prior to the receipt of a permit, upon the issuance of a so-called "limited work authorization." An LWA can cover many types of service facilities, including roadways, railroad spurs, and transmission lines. This permission, the applicants explain, constitutes only another exception to the subsection (c) ban; because all that is banned there is on-site activity, the permission in subsection (e) was necessary for, and extends only to, that type of activity. As they see it, off-site construction of service facilities may be performed without awaiting any Commission approval, even in light of subsection (e).

We pause to note only that the applicants' interpretation of subsection (e) would appear to be correct, if they were right in their analysis of subsections (b) and (c). As we determine, however, that is not the case.

transportation routes and other service facilities on the plant "site" but to disregard those effects entirely once those facilities passed "off-site." Those facilities do not change character at the "site" boundary—wherever that may be[31]—and there is no reason to suspect that Congress or the Commission would wish that concern about, and conditioning of, their environmental effects stop there either.

Thus, we must reject the applicants' position as inconsistent with NEPA and must, if we fairly can do so, read the applicable regulation in a manner consistent with that Act.

1. It is quite possible that the drafters of subsection (c) inserted the words "on a site on which the facility is to be operated" either unthinkingly (perhaps because the same language already appeared in subsection (b)), or for descriptive rather than limiting purposes. To be sure, we would ordinarily be reluctant to view any portion of a regulation as superfluous. But experience teaches that in earlier times Commission regulations were not always drawn with the precision that might have been desired. And in any event some portion of the regulation must be deemed surplusage, for subsection (b), already freighted with its "on-site" limitation, also carries with it an exception for "procurement or manufacture of components of the facility." 10 CFR §50.10(b)(2).[32] As is immediately apparent, those activities would not at all be expected to take place, at least in the period prior to the issuance of a construction permit, on the eventual site of facility operation. Therefore, if the "on-site" phraseology were to be given the meaning attributed to it by the applicants, the exception would become superfluous. Since we know the exception was intended to serve important purposes, it makes more sense to preserve it and treat the "on-site" language as excess.

2. There is another permissible reading of Section 50.10 that would also comport with NEPA. Nowhere does that regulation define either the term "site" or the phrase "on a site on which the facility is to be operated." A number of possible definitions come to mind, ranging from the relatively small area within the plant perimeter fence, past the bigger areas included within the boundaries of either the exclusion area or the contiguous property owned by the applicant, all the way to the large area which encompasses all the land on which the plant and its necessary accoutrements—including transmission lines and access ways—are to be located.

Selection of a definition which would include that large area within the "site" would be fully consistent both with NEPA and with the uniform practice

[31] See pp. 312-313, *infra*.

[32] As Section 50.10(c)(2) reflects, the same exception remained in effect after the implementation of NEPA.

the staff has followed in fulfilling what it sees to be its NEPA obligations.[33] Under this definition, service facilities would be viewed as "on-site" in all instances. Under the pre-NEPA regulations (subsection (b)), an applicant was allowed to construct them along their entire length in advance of a construction permit; post-NEPA, no portion can be constructed without some form of Commission approval.[34]

Such a definition would have an additional virtue. It would avoid the seemingly irrational result of (1) permitting the Commission to be concerned about the environmental impact of service facilities on the applicant's property—where it often will scarcely matter—while at the same time (2) precluding the Commission from doing anything about those facilities outside the applicant's property—where their impact is likely to be most offensive.

We need not select between one of the two permissible readings of the regulation just discussed. For as far as the issue before us here is concerned, both of them result in the implementation of NEPA to the required "fullest extent possible" and lead to the same result. Specifically, under either reading the regulations do not permit the applicants to proceed with construction of the proposed railroad spur and access roads in the absence of scrutiny by the Licensing Board, which is free to consider whether the routes selected must be rejected on the ground that environmental factors, considered in conjunction with other relevant factors, indicate that a feasible alternative route is preferable.

---

In sum, by virtue of NEPA, the Licensing Board has the authority both (1) to explore the environmental impact of constructing the access road and railroad spur; and (2) to decree, should the outcome of that exploration so warrant, that authorization of construction of the nuclear plant be subject to environmental conditions pertaining to those service facilities. Thus, the Board below correctly concluded that the applicants are not legally entitled to build the road and spur without awaiting Commission approval to do so.

## III

Our ruling does not mean that the applicants are remediless. On the contrary, there are at least three avenues of possible relief open to them.

As we have already observed, their problem is that it may be some time

---

[33] In at least two of the suspension proceedings which followed in the wake of *Calvert Cliffs'*, both the staff and the licensing boards believed the Commission intended to reach what the applicants would call "off-site" construction activity. See the staff's December 17, 1975 brief below, pp. 6-8.

[34] See Part III, *infra*.

before they obtain a decision on their request for a limited work authorization. When (and if) that decision is rendered in their favor, they could then begin construction of the railroad spur and access road. On the other hand, if they could begin that work now, they assertedly could complete them at less cost (owing to additional charges which will be incurred if they are not completed before winter temperatures set in) and could mitigate delays otherwise expected to affect completion of construction of the basic plant.

Assuming all this to be true, and that the environmental consequences of constructing the routes are, in fact, insignificant, the following courses are open to the applicants. The first is to seek an "exemption" under 10 CFR §§50.12 and 51.4. Those regulations allow the Commission to "grant such exemptions" from its regulatory requirements as are authorized by law and in the public interest. Although it is our impression that exemptions have been rarely granted in recent years, if the applicants' cause is truly deserving, the Commission may grant relief.

A second and perhaps better way to get the matter before the Commission is through the "special circumstances" route. Under 10 CFR §2.758, a party may request that a particular rule or regulation "be waived or an exception made" on the ground that "special circumstances * * * are such that application of the rule or regulation * * * would not serve the purposes for which [it] was adopted." The Licensing Board must then determine, after considering the views of the other parties, whether a *prima facie* case for an exception has been made. If it so finds, it does not grant the exception itself; instead, it certifies the matter directly to the Commission for decision. The advantage this procedure has over the "exemption" route is that the matter is presented to the Commission on a fuller record accompanied by the views of the Licensing Board, which should be most familiar with the situation.

It may not, however, be necessary for the applicants to invoke either of the foregoing extraordinary procedures. A third avenue of potential relief is suggested by the very regulation that has been under discussion in this opinion. In implementing NEPA by promulgating subsection (c) to 10 CFR §50.10, the Commission banned, in addition to what was already precluded by subsection (b), "any clearing of land, excavation or other substantial action that would adversely affect the environment of a site." While in many circumstances construction of transportation routes will "adversely affect the environment,"[35] it is open to an applicant to attempt to demonstrate to the Licensing Board that its particular proposal will not occasion any such effects. If an applicant can do so, either on summary judgment or after a hearing, it should be able to obtain a

[35] Construction of transmission lines is even more likely to do so.

ruling from the Board that it may proceed—of course at its own risk—in advance of a ruling on the LWA.[36] This procedure would avoid unnecessary delay; at the same time it would both preserve the substantive values intended to be protected by NEPA and afford the procedural protection of preventing construction until a licensing board had the opportunity to scrutinize the applicant's proposal.[37]

Needless to add, we intimate no opinion whether the applicants will prevail if they invoke one of these procedures. The roads are open, however; whether the applicants can travel them successfully depends on the strength of their case.

---

For the foregoing reasons, our provisional determination to direct certification is confirmed and the rulings of the Licensing Board on the certified questions are *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

---

[36] We assume that the applicants could readily establish, as they would have to, that the relative cost of the service facilities is so low, compared to the total cost of the project, that there would be no such "commitment of funds and resources" as might "prejudice the outcome of pending NEPA reviews." *Allied-General Nuclear Services* (Barnwell Separations Facility), ALAB-296, NRCI-75/10 671, 678 (October 30, 1975).

[37] Each of the three procedures outlined would involve some sort of Commission or licensing board scrutiny and approval of the applicants' proposal before construction was allowed to go forward. Thus, even if an "exemption" from or "waiver" of the Commission's NEPA-implementing regulations were granted, the Commission would have fulfilled, in another manner, its statutory obligations under NEPA.

**Mr. Rosenthal, dissenting in part:**

The contrary conclusion of my colleagues notwithstanding, I believe that the relief which the applicants sought by their motion below was beyond the power of the Licensing Board to grant. As it has turned out, however, the disagreement among us on that question is without practical significance in the present case. For I fully subscribe to Mr. Farrar's additional determination, developed in Part II of his opinion for this Board, that in any event the applicants were not entitled on the merits to the requested relief.[1] Thus, irrespective of how one comes out on the issue of Licensing Board jurisdiction to entertain it, the applicants' motion was correctly denied.

In these circumstances, there is a ready temptation merely to note my dissent from Part I of Mr. Farrar's opinion and let it go at that. Because, however, the issue of the authority of licensing boards to enter orders of the kind applied for in this instance is of potentially recurring importance, an explanation of why I cannot endorse my colleagues' reasoning on the point seems warranted.

1. The relief requested by the applicants below can be simply stated: a declaration by the Licensing Board that, wholly independent of the construction permit proceeding—and of what might or might not be considered, determined or ordered by the Board therein,— they may go forward at once with the building of the railroad spur and access road. In asking for this relief, the applicants thought that they were seeking a declaratory judgment; they said just that at oral argument before us.[2] And the other party participating on the issue, the NRC staff, viewed the applicants' motion in precisely the same fashion.[3]

---

[1] I also am in total agreement with Part III of Mr. Farrar's opinion, which suggests that there are other avenues of relief available to the applicants if, as they claim, the construction of the spur and road would have negligible environmental impact.

[2] CHAIRMAN ROSENTHAL: * * * I would like to ask you first whether you agree that the relief which was being sought was in the nature of declaratory relief.

MR. SILBERG: Yes, I would agree with that, Mr. Chairman.

MR. FARRAR: Mr. Silberg, are you agreeing with that because one of our earlier orders characterized it as such, or would you reach that conclusion on your own?

MR. SILBERG: I believe I would reach that conclusion independently.

App. Tr. 5

[3] CHAIRMAN ROSENTAHL: * * * I'll start off, Mr. Gray, by asking you the same question that I asked Mr. Silberg at the inception of his argument.

Does the Staff regard the relief that's being sought by the Applicant as being in the nature of declaratory relief?

MR. GRAY: Yes, Mr. Chairman, the Staff does. In fact, I believe the Applicant's initial motion to the licensing board was stated in the form of a motion for a determination that the access road could be built or some such language that—

CHAIRMAN ROSENTHAL: You regard that as being an application for declaratory relief?

MR. GRAY: In our answer to that motion, we were the ones who so characterized it as a motion for declaratory relief.

App. Tr. 65.

I would not have thought any different conclusion to be possible. My colleagues have told the applicants, however, that in fact they had not applied for declaratory relief but, rather, for a "routine jurisdictional ruling." Specifically, according to my colleagues, "in substance the applicants have simply asked the Licensing Board to rule on whether *its* authority over the on-going licensing proceeding extends to certain activities which are an incident of reactor construction" (emphasis supplied).

If this were an accurate representation of the substance of the applicants' motion, I would have little difficulty in accepting my colleagues' view that the Licensing Board had jurisdiction to entertain that motion. Beyond question, a determination by an adjudicatory tribunal on whether "it has been empowered to pass upon a particular matter" is not normally regarded as a declaratory judgment. Nor is there any room for serious doubt that a licensing board not only has the authority but the duty to make such determinations if called upon to do so during the course of the proceeding; *i.e.*, to determine its own jurisdiction. See, *e.g.*, *Detroit Edison Co.* (Greenwood Energy Center, Units 1 and 2), ALAB-247, 8 AEC 936 (1974). But, with all due deference, I think that my colleagues' characterization of what "in substance" is being sought here is far wide of the mark.

If all that the applicants had been interested in obtaining was a ruling by the Licensing Board as to what issues would or could be entertained in the proceeding before it, there would have scarcely been a necessity for their motion. It would have sufficed to raise the matter at a prehearing conference, the usual forum for the shaping of the future course of an adjudicatory proceeding. In the order which ordinarily follows such a conference, the Board could have been expected to announce its determination on what would be considered at the hearing; *e.g.*, whether evidence would be received on the environmental impact of the construction and/or utilization of the railroad spur and access road (and, if so, for what purpose). Needless to say, such a determination would have been purely interlocutory in character; *viz*, it would have been subject to alteration at any subsequent time before rendition of the initial decision were the Licensing Board to have second thoughts about its correctness.

The applicants obviously wanted more, however, than the "routine jurisdictional ruling" which they could have obtained through the ordinary prehearing procedures and which would have simply governed—unless subsequently changed—the course (and possibly the outcome) of the construction permit proceeding. As earlier noted, the object of their motion was to obtain an order which conferred a formal Licensing Board blessing upon their proposal to embark immediately upon construction of the railroad spur and access road in total disregard of the adjudicatory proceeding and whatever might be decided therein. Unlike a prehearing conference order defining on an interlocutory basis the jurisdictional limits of the inquiry to be made *during and as a part of the*

*proceeding,* such an order would have had all the attributes of finality. For once, under the green light provided by the Licensing Board, the spur and road had been built, as a practical matter there would have been no longer any opportunity for Board reconsideration.

But it is not simply the interlocutory order/final order dichotomy which illumes the difference between (1) requesting the Licensing Board to determine its jurisdiction for the purposes of deciding what issues can and will be considered by that Board; and (2) seeking a declaration on what an applicant is or is not free to construct without advance Commission approval. This Board's opinion reads as if, in calling upon the Licensing Board to give them a *carte blanche* to build the spur and road now, the applicants were in reality asking that Board to rule that it was not empowered to consider the environmental impact of those activities during the course of the proceeding. The applicants have made it clear, however, that they were not looking for such a determination at all. Rather, conceding the jurisdiction of the Licensing Board to inquire into associated environmental effects and to deny a construction permit based upon its evaluation of those effects, the applicants argue that nonetheless they are entitled to build the spur and road immediately because the Licensing Board assertedly cannot impose any conditions relating to them on any limited work authorization or construction permit which might be authorized. True enough, for the reasons set forth in Part II of Mr. Farrar's opinion, this position has been rejected on the merits; *i.e.*, a majority of this Board has determined that the Licensing Board is clothed with the authority to order the inclusion of such conditions if found warranted on the basis of the evidence of record. But the fact still remains that neither in form nor in substance were the applicants in search of merely a jurisdictional ruling of the kind often made by courts and administrative tribunals early in the proceeding for the limited and exclusive purpose of defining the outer bounds of what would be entertained as the evidentiary hearing moved forward.[4]

These considerations lay bare the fallacy in the ultimate analysis of my colleagues which leads them to the conclusion that "a declaratory order * * * is simply of a different breed than is what is sought here." They acknowledge, indeed stress, that the traditional function of declaratory relief is to enable one "to discover," without the necessity of "acting at its peril," whether "a proposed course of conduct violated the law." And they do not, as they cannot,

[4] Precisely that type of ruling was involved in *Greenwood,* ALAB-247, *supra.* The Licensing Board was there called upon to decide only whether it had jurisdiction (1) to consider, during the course of the proceeding, the environmental effects of "offsite" transmission lines associated with the proposed nuclear plant; and (2) to impose, in its initial decision, conditions concerning the routing, design and construction of such lines. No issue was raised (or declaration sought) respecting the right of the applicant to commence building the lines without regard to the licensing proceeding or its outcome.

dispute that this is precisely what the applicants wished to accomplish by their motion here; *i.e.*, to "discover" before "acting at [their] peril" whether the building of the railroad spur and access road would "violate the law." Nonetheless, my colleagues say, the motion did not seek declaratory relief because it was filed "in an ongoing proceeding already initiated by the Commission * * * to test the tribunals' jurisdiction" and was, therefore, "no more than an administrative counterpart to a motion to dismiss or for partial summary judgment for want of subject matter jurisdiction." As has been seen, however, this characterization is simply wrong–once again, although filed (improperly as I see it) in the licensing proceeding, the motion did not seek any relief in that proceeding (by way of partial summary judgment or otherwise) but rather a declaration of the applicants' rights *outside* of the proceeding.

2. For the foregoing reasons, I continue unpersuaded that we should treat the applicants' motion as being anything other than what both parties themselves deemed it to be–an application for declaratory relief on an issue not required to be determined in the course of a proceeding convened to decide whether, when and on what terms a construction permit or limited work authorization should issue. I now turn to the question whether the Licensing Board had the power to entertain it.

a. That, particularly in light of the express provisions of 5 U.S.C. 554(e), the Commission is authorized to grant declaratory relief hardly requires extended discussion.[5] Nor need I pause long to consider whether it is only an abstract declaration that is being sought by the applicants here; manifestly, the ruling they request is more than that, for it would determine "a 'right or obligation' so that 'legal consequences' will flow from it * * *." *Pennsylvania R. Co.* v. *United States*, 363 U.S. 202, 205 (1960).

But, as both of the parties before us recognize, it does not necessarily follow that the licensing boards have the power to enter declaratory orders. Those boards–and the appeal boards as well–have only such jurisdiction as the Commission has seen fit to confer upon them. *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, NRCI-76/3 167, 170 (March 3, 1976).[6] Thus one must look to see whether the Rules of Practice (the font of the boards' powers and duties) contain either explicitly or implicitly a delegation of the Commission's declaratory order authority.

No one seems to dispute the absence of an express delegation. Moreover, a

[5] See *e.g.*, *Frozen Food Express* v. *United States*, 351 U.S. 40, 44 (1956); *Boston & Maine R.R.* v. *United States*, 358 U.S. 68, 70 (1958); *Weinberger* v. *Hynson, Wescott & Dunning, Inc.*, 412 U.S. 609, 624, 627 (1973).

[6] In its January 7 order (at fn. 1), the Licensing Board suggested that its authority to act for the Commission in licensing proceedings has a statutory foundation *(i.e.*, the Administrative Procedure Act) and consequently "unless limited by regulation, is coextensive with Commission authority." I cannot accept this analysis, and my colleagues do not appear to do so either. In my view, the APA cannot be read as independently conferring jurisdiction upon licensing boards to grant any form of substantive relief on behalf of the Commission.

close examination of the Rules of Practice in their entirety has uncovered, apart from Section 2.718, no provision which even arguably might represent an implicit delegation. Attention must focus, therefore, on the reach of the conferral upon licensing boards in subsection (*l*) of that Section of the power to take "any * * * action consistent with * * * sections 551-558 of title 5 of the United States Code"—*i.e.*, the Administrative Procedure Act.

In relying upon this grant of authority, the applicants point to the undeniable fact that the declaratory orders provision in 5 U.S.C. 554(e) falls within "sections 551-558 of title 5 * * *." Accordingly, it is said, "there can be no question that the Commission's delegation to the Licensing Board includes authority to issue declaratory orders." I do not, however, share the applicants' confidence in that regard.

Subsection (*l*) cannot be viewed in isolation but rather must be read in conjunction with the first paragraph of Section 2.718. It there appears that all of the powers enumerated in Section 2.718, including those set forth in subsection (*l*), are conferred upon the licensing boards in aid of the discharge of their "duty to conduct a fair and impartial hearing according to law, to take appropriate action to avoid delay, and to maintain order": *viz*, a licensing board "has all powers *necessary to those ends*, including the powers to * * *" (emphasis supplied).

The applicants insist that the phrase "to avoid delay" was intended to encompass delay not merely in the conduct of the adjudicatory proceeding but, as well, in the construction of the facility. Although my colleagues decline to pass upon that assertion, in my judgment it can be dismissed out of hand. In context, it seems perfectly plain that Section 2.718 has reference to delays in the progress of the hearing and the disposition of the matters in adjudication—and that alone.

It is just as apparent to me that the entry of a declaratory judgment that the applicants may construct their railroad spur and access road without first obtaining Commission approval would not expedite the course of the proceeding one iota. Indeed, I fail to see what possible effect the building of the spur or road now—rather than later—could conceivably have on any aspect of the proceeding. The majority observes that, if the issues are narrowed before the hearing commences, time may be saved. That is doubtless so. But it is also quite beside the point here. First of all, as previously noted, the applicants are not seeking a ruling, by way of declaratory order or otherwise, which would have the effect of taking out of the proceeding issues relating to the environmental impact of the spur and road.[7] Secondly, it is always open to a licensing board to render an

[7]My colleagues suggest that nonetheless the completion of the hearing might be accelerated by a Licensing Board determination that it lacked the authority to condition the building of the railroad spur and access road. This suggestion ignores reality. If (as the applicants concede) the Licensing Board must in all events fully explore the environmental impacts of the spur and road, little if any time would be saved by a declaration that the evidence adduced could not be used to impose license conditions.

order indicating what issues will be considered without, at the same time, getting into the matter of whether the applicant may engage in certain construction activities while the proceeding is still in its infancy.[8]

b. I am thus constrained to conclude that, as now written, the Rules of Practice do not affirmatively delegate to licensing boards the power to issue a declaratory order of the type here involved. Both the applicants and the staff suggest, however, that there are compelling practical reasons why the licensing boards should nonetheless be deemed to have the authority to grant declaratory relief. The applicants point out, for example, that if such authority is lacking, the only procedure available to persons in their position would be the filing of an application for a declaratory order directly with the Commission (through its General Counsel). Under this procedure, the Commission would be compelled to rule on the legal issue presented by the application without the benefit of a prior analysis of the issue by licensing and appeal boards (in addition to the General Counsel).[9] In its brief, the staff emphasizes still other factors:

> First of all, as in the *Greenwood* case, the issue of whether the Commission has regulatory jurisdiction over the proposed off-site construction activities could easily have been properly raised by the Staff or the Intervenors before the Licensing Board if they had proposed any license conditions pertaining to these activities. Second, if the Commission in the exercise of its authority under 5 U.S.C. §554(e) found it necessary to resolve factual issues (such as whether the off-site construction would still be undertaken even if the proposed facility were not approved) before passing on the jurisdictional question, it would appear appropriate to have the Licensing Board presiding over—and thus most familiar with—the pending application undertake that task. Finally, the avoidance of dual forums adjudicating closely related factual issues is in accordance with long-followed principles of judicial efficiency.

---

[8] Stated otherwise, assuming my colleagues were right that it would expedite the hearing to do so, a licensing board could always issue an order respecting its jurisdiction to impose license conditions without going on to declare that the applicant is free to start building immediately. In this connection, it should be noted that, in order to make that declaration, the Board would have to do more than decide that no license conditions could be imposed. It would also have to conclude that, if no license conditions are possible, the result is that the applicants may start construction. I call attention to this fact only because my colleagues appear implicitly to assume that a determination by the Licensing Board that it lacked jurisdiction to impose conditions on the construction permit bearing upon the spur and the road would have been of itself the desired determination that construction of them may start at once.

[9] The applicants also note the absence of an established procedure for obtaining the views of all other interested persons on the merits of a request for a declaratory order filed with the General Counsel. But nothing would stand in the way of the General Counsel soliciting, on the Commission's behalf, the submission of such views.

These are all cogent observations. But whether they permit us to imply powers in licensing boards beyond those having a derivation in the Commission's regulations is quite another matter.[10] We do not have the freedom to broaden the delegations contained in Commission regulations to effect what we might think to be sound policy. That is the Commission's province. Consequently, appropriate Commission action is required before licensing boards may begin to issue declaratory orders having no necessary tie to that discharge of their assigned function of deciding whether, when and on what terms a nuclear permit, license or authorization may issue.

---

In my view, then, the Licensing Board should have denied the applicants' motion for want of jurisdiction to grant the relief requested therein. Under this view, it would have been unnecessary for either the Licensing Board or ourselves to reach the question of the entitlement of the applicants to build the railroad spur and access road in advance of Commission approval. But since my colleagues think that that question was properly before the Licensing Board and thus is properly before us, yet do not agree between themselves on how it should be answered, I have been left with no choice other than to consider it myself. As earlier noted, I join Mr. Farrar in his conclusions that (1) Commission approval is required and (2) the applicants have means at their disposal for obtaining that approval before the issuance of a limited work authorization should they be able to establish that the construction of the spur and the road would entail no consequential environmental impact. My agreement extending as well to the entirety of the thorough and persuasive analysis of NEPA and the pertinent Commission regulations in Parts II and III of his opinion, there is no occasion to add any words of my own on the subject.

---

[10] In view of *United States* v. *King*, 395 U.S. 1 (1969), I cannot accept the view of my colleagues that, because the Licensing Board would have been empowered (indeed required) to decide the question of Commission jurisdiction over the construction of the railroad spur and access road had a party proposed a license condition pertaining to those activities, it necessarily follows that that Board must be deemed to have the inherent power to decide the question in a declaratory relief context. The issue in *King* was whether the Court of Claims, which concededly could have entertained the plaintiff's grievance in a suit for a tax refund had he filed a timely claim for such a refund, possessed jurisdiction to grant relief on that grievance by way of a declaratory judgment instead. In answering this question in the negative, the Supreme Court held that neither the Court of Claims Act nor the Declaratory Judgment Act of 1934 conferred declaratory judgment jurisdiction on the Court of Claims. 395 U.S. at 2-5. So too here, as I have shown, no Commission regulation confers that jurisdiction upon licensing boards.

My colleagues' attempt to distinguish *King* is unavailing. As I have already pointed out, the Board below was not asked merely to rule on its subject matter jurisdiction under NEPA—a ruling which could have been made without at the same time declaring the right of the applicants to commence construction.

**Dr. Buck, dissenting in part:**

I agree with the discussion in Part I of Mr. Farrar's opinion which concludes that both the Licensing Board and we are clothed with the requisite delegated authority to determine the question raised by the applicant–whether that authority be denominated as a ruling on subject matter jurisdiction or as the granting of declaratory relief. I would only re-emphasize that the situation here under review is one affirmatively calling for the Licensing Board to exercise that authority. As to Part III of Mr. Farrar's opinion, I agree in theory that all of the outlined methods of procedure could produce the end result which I believe is called for, but I seriously question the practicality of the first two procedures outlined. On the merits, however, I disagree with my colleagues' views expressed in Part II of Mr. Farrar's opinion as to both the mandate of NEPA and the dictates of the Commission's implementing regulations. Given the existing record of this proceeding, I conclude that the applicants should be free to begin construction of the off-site portions of their proposed access road and railroad spur, and that neither NEPA nor the Commission's regulations would preclude them from doing so.

1. I have previously had occasion to express my views as to the limited scope of the licensing jurisdiction conferred by the Atomic Energy Act. *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-247, 8 AEC 936, 947-51 (1974) (dissenting opinion). As I there pointed out, the National Environmental Policy Act (NEPA) did not expand that jurisdiction, although it did broaden the scope of the Commission's regulatory review of subjects within that jurisdiction. *Id.* at 950; *Kitchen* v. *F.C.C.*, 464 F. 2d 801 (D.C. Cir. 1972);[1] *Gage* v. *A.E.C.*, 479 F. 2d 1214, 1220 n. 19 (D.C. Cir. 1973). I emphasized, however, that NEPA did require consideration by the Commission in impact statements (and in associated adjudicatory licensing proceedings) of the environmental effects of a Federal action, even though the Commission might itself lack the authority to impose conditions to mitigate those effects. 8 AEC at 950-51.

---

[1] My colleagues attempt to distinguish *Kitchen* on the ground that the facility in question there (a local telephone switching station) did not need Federal regulatory approval and for that reason was not subject to NEPA review requirements (*supra*, p. 307). The contention had been made that the switching station was an integral part of a telephone "line" which was subject to Federal regulation; but the court indicated that, irrespective of whether this were so, and despite the alleged adverse impacts of the switching station, construction of that station need not undergo a NEPA review since it was beyond the FCC's primary regulatory jurisdiction. In like manner, the location of the road and railroad here are subjects beyond the NRC's primary jurisdiction. The environmental effects of the road and railroad stem from the licensing of the nuclear facility no more than the effects of the switching station stemmed from the presence of the telephone "line." In my view, the situations are quite comparable.

In *Greenwood,* the majority's conclusion–with which I disagreed–was that the location of transmission lines was subject to regulation by the Commission as both a safety and an environmental matter. Accepting that result as a starting point for my analysis of this case, I conclude that the *Greenwood* reasoning is inapplicable here and that the location of the Wolf Creek access road and railroad spur is beyond the Commission's regulatory authority.

In particular, those subjects are not dealt with by any of the Commission's generic safety regulations and, on the facts of record here, appear to raise no safety issues. *Cf. Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1010 (1973); *Citizens for Safe Power* v. *NRC,* 524 F. 2d 1291, 1299-1300 (D.C. Cir. 1975). Nor are the road and railroad proposed to be used for any purpose in which their location might be subject to a safety review. The location of those facilities will therefore not be subject to the Commission's safety surveillance. That being so, the Commission's NEPA review responsibilities will be strictly limited: the Commission will be expected to assess the environmental impacts of the road and railroad (to the extent these impacts are a result of the license application) and to factor any such impacts into the overall cost-benefit balance for the facility. It cannot direct that the road or railroad be routed through a particular location, although it can deny the license (if appropriate) on the basis of their environmental impacts.

My colleagues apparently recognize that the safety rationale of *Greenwood* would not support the exercise of regulatory authority over the location of the access road and railroad spur, for they essentially abandon that rationale. They would extend the Commission's regulatory authority to every source of an environmental impact attributable to the construction or operation of the facility, whether or not within the Commission's primary jurisdiction. This view necessarily rejects the holding in *Kitchen* (as well as *Gage*) and, in my view, is erroneous.

2. Given the limited review function which I view as governing with respect to the road and railroad, the question presented is whether the commencement of construction of facilities of this type must await the award to an applicant of construction permit or a limited work authorization (LWA), either as a general matter or on the present record for the Wolf Creek facility in particular. While I need not here spell out a general rule for application in every case, I conclude that there is no general bar to the carrying on of every activity associated with a nuclear facility prior to the completion of the NEPA review of a facility,[2] and that, on the record of this case, construction of the railroad spur and access road need not await the LWA or construction permit.

[2] In fact, some off-site activities are specifically allowed–*e.g.* construction of long-lead items such as the pressure vessel. 10 CFR §50.10(c)(2).

a. By their terms, the Commission's regulations only prohibit pre-construction permit of LWA construction "on a site."[3] 10 CFR §50.10(c). Further, they specifically permit construction of access roads and railroad spurs (whether off or on-site) after receipt of an LWA. 10 CFR §50.10(e)(1)(i) and (iv). But they do not specify whether off-site activities not specifically precluded by Section 50.10(c) may be undertaken. For the answer to that question, we must examine the mandates of NEPA, which the regulations in §50.10(c) were promulgated to implement. 37 F R 5745 at 5746 (March 21, 1972).

NEPA contemplates the review by Federal decision makers of the environmental impacts of proposed Federal actions prior to the taking of such actions. *Calvert Cliffs Coordinating Committee, Inc.* v. *AEC*, 449 F. 2d 1109, 1114 (D.C. Cir. 1971). A "rule of reason" governs the extent of detail of this environmental review. *Scientists' Institute for Public Information, Inc.* v. *AEC*, 481 F. 2d 1079, 1091-92 (D. C. Cir. 1973); see also *Carolina Environmental Study Group* v. *U.S.*, 510 F. 2d 796, 800-01 (D.C. Cir. 1975). And where the scope of Federal action with respect to a given subject is limited—whether by jurisdictional or other constraints—the Federal agency need do no more than take a "hard look" at the environmental consequences of that action. *Aberdeen & Rockfish R. Co.* v. *S.C.R.A.P.*, 422 U. S. 289, 45 L. Ed. 2d 191, 217 (1975).

Given the limits of its jurisdiction over off-site access roads and railroad spurs, and the lack of a regulatory bar to their construction prior to an applicant's receipt of a construction permit or LWA, a "rule of reason" approach would appear to permit such construction in appropriate circumstances.

b. Whatever may be the limits to the circumstances in which construction of access roads and railroad spurs may be started prior to the award of a construction permit or LWA, the situation presented here is one in which such commencement of construction should not be foreclosed. The applicants have presented information concerning the environmental effects of the road and railroad in their Environmental Report (see §4.1.1, at pp. 4.1-3 and 4.1-4). The staff in its FES reviewed and evaluated this information (§§3.9.1 and 3.9.2) and concluded as follows (§4.1.4):

> Since the plant area itself is very close to a major highway, the access road will be short and its impact insignificant. A new railroad spur will be con-

[3] It is unfortunate that the Commission's regulations fail to define the term "site." A term as central to operative regulations as is this one should be delineated with some precision in order to provide at least minimal guidance as to the scope of the regulations. But I am dismayed at the expansive and amorphous meaning which the majority under one of its alternative views would apparently accord the term (*supra*, pp. 312-313). Absent any definition of the term, I would at least seek to ascertain its "plain meaning." Under the majority's interpretation, however, anything connected with a project which the regulators at any particular time believe to be deserving of regulation can be deemed to be "on site." Not only is this not the plain meaning of "site"; there is no warrant anywhere in the regulations for interpreting the term in this manner.

structed from the Missouri Pacific Railroad northwest to the plant site. The total area disturbed by the spur will be approximately 150 acres.

No party to the construction-permit proceeding has raised any issue with respect to the access road or railroad spur or has objected to the proposed location of the road or railroad (and the time for doing so absent a showing of good cause has long since passed). Indeed, no party has even expressed any interest in raising such an issue. That being so, the only way the record of this proceeding could lead to a recommendation by the Board to relocate the road or railroad (on pain of construction-permit denial) would be for the Board itself *sua sponte* to undertake development of the record on these matters. There is nothing in the present record of which I am aware which would reasonably cause it to do so.

The Board will, of course, have to factor any environmental impacts of the access road and railroad spur into its final cost-benefit balance. On this record, I see little likelihood that doing so could have any affect on that balance, much less tip it one way or the other. Moreover, there is nothing to suggest that, if a construction permit were to be denied, the railroad could not be removed, assuming the site were not to be used for another purpose requiring a railroad. (The access road construction involves improvements to an already existing road; if the permit were denied, the improved road could remain without any more impact than the existing road.) Given these considerations, there appears to be no practical reason why construction of the access road and railroad spur should await the award of a construction permit or an LWA.

NEPA requires an FES to be prepared as part of the Commission's environmental review of a propsoed licensing action, and it requires the FES to "accompany the proposal through the existing agency review processes." 42 U.S.C. 4332(2) (C). That process includes the Licensing Board hearing. For that reason, before construction of off-site railroad spurs or access raods commences, the Board should be permitted to review such construction and evaluate its potential effect on the final cost-benefit balance. The motion filed by the applicants here is an appropriate method for achieving just that result. The Board has jurisdiction to consider such a motion and, in appropriate circumstances (such as appear to exist here), to rule that construction of the road and railroad will not materially alter the cost-benefit balance of the project. In that way, it will have taken the requisite "hard look" at the environmental consequences of the road and railroad.

Such a procedural framework serves to preserve all of the environmental goals sought by NEPA, yet will prevent an unswerving and unthinking adherence to procedural niceties from imposing an unreasonable and unwarranted delay on activities which in any event are not likely to be modified by the yet incomplete NEPA review.

3. I do not read my colleagues' opinion as taking any different view on the likely outcome of the NEPA review, or on the desirability here of permitting

construction of the access road and railroad spur to begin. Indeed, they suggest that there are three avenues which the applicants might follow to achieve the result they seek.

First, they advance the possibility of an exemption from the LWA requirements. As now structured, however, the exemption provision represents only a theoretical solution and does not constitute a practical way to achieve the result of permitting certain activities to begin—consistent with environmental standards—prior to the completion of the full environmental review. Under 10 CFR §50.12, any exemption must be granted by the Commission itself; the authority has not been delegated. This in itself may be a time-consuming procedure, since the Commission would have to establish a method for developing a factual record to determine whether the standards for exemptions had been satisfied. Moreover, the Commission itself has expressed the view that it will grant exemptions "sparingly and only in cases of undue hardship." 39 FR 14506, 14507 (April 24, 1974). Could a delay of several months in the commencement of construction *ever* be deemed an "undue hardship?"

The Commission's policy concerning the granting of exemptions may well have been developed in a context far different from that presented here. But before the exemption route can be viewed as a realistic means available to permit such activities as are here in question, it is clear that the exemption authority must be significantly modified. At the very least, more precise standards should be delineated and the authority to grant exemptions (at least of the type here in question) should be delegated to Licensing Boards, subject to normal review procedures.

Next, my colleagues suggest utilization of 10 CFR §2.758, under which a party may request a waiver of or exception from a regulation on a "special circumstances" basis. Here, the Licensing Board would develop a factual record; but as in the case of the currently existing exemption provision, this route would require approval by the Commission itself, a process which is time consuming and thereby likely to frustrate its effective use.

Finally, the majority's third suggestion, while somewhat tentative, in effect would be consistent with the procedure which I have discussed in detail and sanctioned earlier in my opinion. The majority's rationale for endorsing that procedure varies from that which I have set forth. Because of the circumstances which I have outlined, however, the case for utilizing this approach is considerably more persuasive than the majority's opinion would suggest.

---

In short, I conclude that the applicants here should be free to commence construction of the off-site access road and railroad spur during the pendency of the further proceedings involving their application for an LWA and construction permit. Any such construction would, of course, be entirely at the risk of the applicants.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-322

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of

Docket Nos. STN 50-546
STN 50-547

PUBLIC SERVICE COMPANY
OF INDIANA, INC.

(Marble Hill Nuclear Generating
Station, Units 1 and 2)

The Appeal Board affirms the Licensing Board's order granting intervention to two petitioners.

ATOMIC ENERGY ACT: SCOPE OF INTERESTS PROTECTED

A municipal water company which withdraws drinking water downstream from the discharge of a proposed reactor has a cognizable interest in the outcome of the construction permit proceeding involving that reactor.

RULES OF PRACTICE: STANDING TO INTERVENE

An incorporated association has standing to represent its members even though its corporate interests may not themselves be injured.

**Messrs. Harry H. Voigt and Omer Brown, II,** Washington, D.C., for the applicant Public Service Company of Indiana, Inc., *appellant.*

**Messrs. Joseph B. Helm and Thomas C. Crumplar,** Louisville, Kentucky, for intervenor Louisville Water Company, *appellee.*

**Messrs. George L. Seay, Jr. and Eugene D. Attkisson,** Frankfort, Kentucky, for intervenor Commonwealth of Kentucky.

**Messrs. Lawrence Brenner and Richard K. Hoefling** for the Nuclear Regulatory Commission Staff.

## DECISION

### April 14, 1976

On March 12, 1976, the Licensing Board granted thirteen petitioners leave to intervene in this proceeding convened to consider Public Service Company of Indiana's application for permission to construct Units 1 and 2 of the Marble Hill Nuclear Generating Station. The applicant appeals from the Board's grant of intervention to two of those petitioners, the Louisville Water Company (a private corporation) and the Citizens Energy Coalition.[1] It contends that the Water Company's petition was inexcusably late and fails to assert a cognizable contention and that the Coalition, as a corporate entity, has no standing to represent the interests of its members.

I

The Water Company withdraws water downstream on the Ohio River from the discharge of the proposed nuclear facility, which water it then supplies to the citizens of Louisville for drinking purposes. In this context, we agree with the Licensing Board that the Company's challenge to the adequacy of the applicant's proposed systems for monitoring that discharge states a sufficient contention. We believe that the Board was equally correct in ruling that the Company's tardiness in filing its intervention petition three months late should not bar its participation. The Company has a "clearly cognizable interest" in the case as a municipal water supplier, there is a lack of other means adequate to protect its interest, it is uncertain that other parties can—or will—protect that interest,[2] and the hearing is by no means imminent. See 10 CFR §2.714; *Nuclear Fuel Services, Inc.* (West Valley Reprocessing Plant), CLI-75-4, NRCI-75/4R, 273 (1975).

---

[1] Also allowed to intervene were the State of Indiana; The Plan Commission and Board of Zoning Appeals of Jefferson County, Indiana; The Board of Commissioners of Jefferson County, Indiana; the City of Madison, Indiana; Saluda Township in Jefferson County, Indiana; Mr. Jeff Talent; Save the Valley, Inc.; Save Marble Hill; Knob and Valley Audubon Society of Southern Indiana; Sassafras Audubon Society; and the Commonwealth of Kentucky Department for Natural Resources and Environmental Quality.

[2] The Commonwealth of Kentucky, a party which could be expected to take a position similar to the Water Company's, states in a brief to us "that the interests of LWC's water users are of a sufficiently special and unique character as to justify separate intervention by LWC," and discounts the suggestion that the Company's interests are adequately represented by any of the other existing parties.

## II

Applicant's dissatisfaction with the Energy Coalition's petition boils down to two things. First, it complains that the "interest" of this intervenor can not be established by reading the affidavits of its member alone, but only by considering them jointly with that of the Coalition's director. We agree with the staff that the applicant's objection is one which elevates form over substance. The Commission's rules are satisfied by the contents of the several verified petitions which, read together, fairly allege that Coalition members live in reasonable proximity to the site of the proposed facility and fear that their health, safety and property interests may be adversely affected by its operations.

The second objection stems from the fact that the Coalition is a corporate entity. Because of this, the applicant contends that the Coalition may not represent the interests of its members in this proceeding without showing that its corporate interests are also adversely affected, a showing it has not made. The applicant invites our attention to *NRDC* v. *EPA*, 507 F.2d 905, 908-11 (9th Cir. 1974), as an appellate decision assertedly supporting its position.

The applicant acknowledges, as it must, that in *Sierra Club* v. *Morton* the Supreme Court said that "[i]t is clear that an organization whose members are injured may represent those members in a proceeding for judicial review," 405 U.S. 727, 739 (1972), and that in *Warth* v. *Seldin* the Court further observed that "[e]ven in the absence of injury to itself, an association may have standing solely as the representative of its members," 422 U.S. 490, 511, 45 L.Ed.2d 343, 362 (1975). But the applicant insists that those statements are *dicta,* not holdings, and that we therefore need not follow them. It urges that, instead (Br. p. 7), we "adopt the approach suggested by the Ninth Circuit in *NRDC* v. *EPA*, *supra,* and hold that a corporation cannot claim standing to represent its members unless it first establishes a cognizable injury to its own corporate interest." Even if we accept *arguendo* applicant's conclusion that the quoted Supreme Court pronouncements are *dicta,* we are inclined to the view that a word to the wise from that source is sufficient.[3]

*Affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

[3] In any event, the "approach" which the applicant sees in the Ninth Circuit's decision in *NRDC* v *EPA* is itself *dictum.* In that case, the court of appeals carefully noted that the petitioning corporations had not alleged injury from the actions complained of "either for themselves or, in representative capacities, for their individual members" 507 F.2d at 910, fn. 6.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-323

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Michael C. Farrar
Richard S. Salzman

In the Matter of

Docket No. 50-346A

THE TOLEDO EDISON COMPANY et al.

(Davis-Besse Nuclear Power Station, Unit 1)

The Appeal Board affirms (on referral) the ruling of the Licensing Board that the operating license for the Davis-Besse Nuclear Power Station, Unit 1, is not "grandfathered" by the terms of Section 105c(8) of the Atomic Energy Act, 42 U.S.C. §2135(c) (8) that is, an operating license for that unit cannot issue until antitrust review has been completed.

RULES OF PRACTICE: CONSTRUCTION

A provision of a statute which appears to be "unambiguous" and whose meaning is "plain" as a result of grammatical analysis should not be applied without first viewing that provision within the context of the entire statute and its legislative history to insure that the "plain meaning" reflects the actual legislative intent and policy.

ATOMIC ENERGY ACT: 'GRANDFATHER CLAUSE'

Section 105c(8) of the Atomic Energy Act, the 'grandfather clause,' waives prelicensing antitrust review in two situations only: *first*, for a construction permit applied for before December 19, 1970, and, *second*, for an operating license in certain circumstances where a construction permit for that facility had been issued before December 19, 1970.

**Mr. Gerald Charnoff**, Washington, D.C., argued the cause for the applicants, The Toledo Edison Company *et al.*; with him on the brief were **Messrs. Wm. Bradford Reynolds, Jay H. Bernstein** and **Robert E. Zahler**, Washington, D.C.

**Mr. David C. Hjelmfelt**, Washington, D.C., argued the cause for intervenor, the City of Cleveland; with him on the brief were **Messrs. Reuben Goldberg**, Washington, D.C., **James B. Davis** and **Robert D. Hart**, Cleveland, Ohio.

**Mrs. Ruth Greenspan Bell**, Washington, D.C., argued the cause for the Attorney General of the United States; with her on the brief was **Mr. Steven M. Charno.**

**Mr. Roy P. Lessy, Jr.**, argued the cause for the Nuclear Regulatory Commission Staff; with him on the brief were **Messrs. Joseph Rutberg, Benjamin H. Vogler, and Jack R. Goldberg.**

## DECISION

### April 14, 1976

**Opinion of the Board by Mr. Salzman, in which Mr. Rosenthal and Mr. Farrar join.**

I

1. **Background.** When Congress amended section 105c of the Atomic Energy Act in 1970 to require the Commission to consider the antitrust implications of nuclear power plants before licensing their construction or operation,[1] it included among those amendments a "grandfather clause," section 105c(8), 42 U.S.C. §2135(c) (8). Under that clause, certain applications for construction permits and operating licenses could be granted even though their antitrust review was incomplete (subject to the proviso that if the review later disclosed adverse antitrust consequences, those "grandfathered" permits could be conditioned retroactively to ameliorate them). Section 105c(8) provides:

> With respect to any application for a construction permit on file at the time of enactment into law of this subsection, which permit would be for issuance under section 103, and with respect to any application for an operating license in connection with which a written request for an antitrust review is made as provided for in paragraph (3), the Commission, after consultation with the Attorney General, may, upon determination that such action is necessary in the public interest to avoid unnecessary delay, establish by rule or order periods for Commission notification and receipt of advice differing from those set forth above and may issue in advance of consideration of and findings with respect to the matters covered in this

[1] Section 6 of the Act of December 19, 1970, Pub. Law 91-560, 91st Cong., 2nd Sess., 84 Stat. 1472, 1473, 42 U.S.C. §2135(c).

subsection: *Provided*, That any construction permit or operating license so issued shall contain such conditions as the Commission deems appropriate to assure that any subsequent findings and orders of the Commission with respect to such matters will be given full force and effect.

The application to construct and operate Unit 1 of the Davis-Besse Nuclear Power Station had been filed with the former Atomic Energy Commission in August 1969, well before the cut-off date for grandfather clause eligibility. Construction permit proceedings on the health and safety aspects of the application were duly held before a Commission licensing board and a permit to construct Unit 1 was issued in regular course in March of 1971.[2] The plant is now approaching completion.

2. **The proceedings below.** A second Licensing Board is currently considering the antitrust ramifications, if any, of licensing Davis-Besse Unit 1. (As we recently explained in *Marble Hill*, antitrust matters are tried separately from health and safety questions.[3]) Whether the antitrust proceedings in this case will be completed before the nuclear facility is ready is problematical.[4] The applicants therefore asked the antitrust board if an operating license for Unit 1 is "grandfathered," *i.e.*, whether section 105c(8) authorizes the plant to be licensed by the Commission before the antitrust review is completed.[5]

The Licensing Board disposed of the applicants' question in a brief memorandum. In its judgment, section 105c(8) is "unambiguous" and allows the Commission to grant license applications in advance of completed antitrust review in two situations only, neither of which applied to the case at bar. LBP-76-2, NRCI-76/1, 39, 41-42:

> First, [the "grandfather clause"] applies to applications for construction permits on file at the time of enactment into law of that subsection which

---

[2] See 4 AEC 571 (1971).

[3] *Public Service Company of Indiana* (Marble Hill Units 1 and 2), ALAB-316, NRCI-76/3, 167 (March 3, 1976).

[4] As explained in *Marble Hill, supra*, it is current practice to holding hearings on the antitrust aspects of a construction permit application concurrently with hearings on the health and safety aspects of that application. The application for Davis-Besse Unit 1, however, was among the first subject to prelicensing review procedures under amended section 105c. Cleveland's petition to intervene in the Davis-Besse proceedings to raise antitrust questions was filed in July 1971; however, the former Atomic Energy Commission did not refer the matter to a licensing board until January 21, 1974, which in turn granted the petition on March 15, 1974. Formal trial of the antitrust issues commenced on December 8, 1975 and is still in progress. The record sheds no light on the reason for the two and one half year delay between the filing of the City's intervention petition and its reference to a licensing board.

[5] No party questioned the antitrust board's authority to consider this issue. We note that, as there were no challenges to the issuance of an operating license for Unit 1 other than on antitrust grounds, no operating license board was needed or convened.

permits would be for issuance under Section 103. This condition does not apply to the instant proceeding. Second, *[section 105c(8)] applies with respect to any application for an operating license* in connection with which written request or antitrust review is made as provided for in paragraph 105c(3). At the time of enactment into law of subsection 105c(3), no such application for an operating license was pending. (Footnote omitted, emphasis in original.)

The Board therefore ruled that "the operating license for the Davis-Besse Unit [1] was not 'grandfathered' by the terms of 105c(8)" and referred that ruling for our consideration. *Id.* at 42-43. We accepted the referral. See 10 C F R §§2.730(f) and 2.785(b).

## II

1. According to the applicants, Congress was concerned that the transition to prelicensing antitrust review not delay the licensing of nuclear power plants applied for before such review was mandatory. In their view, the "grandfather clause" was added to preclude the possibility of such delays. That congressional goal would be unattainable, applicants say, unless section 105c(8) is construed to authorize the grant of operating licenses as well as construction permits prior to the completion of antitrust review in cases like this one, *i.e.*, where the application to construct the plant was filed before section 105c was amended in 1970. (See App. Tr. 13-14.) The Licensing Board, however, read section 105c(8) to "grandfather" only construction permits and not operating licenses in these circumstances. The applicants ask us to overturn that ruling as inconsistent with the legislative purpose and uncompelled by the statutory language.[6]

2. On the other hand, the NRC staff, the Department of Justice (representing the Attorney General) and the City of Cleveland all urge affirmance of the Licensing Board's ruling. The staff says "the meaning of [the grandfather clause] is clear on its face," and that, therefore, "resort to the legislative history is unnecessary." (Br. p. 6). In its judgment, to interpret section 105c(8) "so as to include a category not expressly provided for by Congress is in effect a rewriting of the statute which would violate a fundamental principle of statutory construction." (*Ibid.*) The staff goes on, however, to review the legislative history and concludes that it supports the Licensing Board's decision.

[6] The applicants do not claim that Davis-Besse Unit 1 falls within the second class of plants "grandfathered" by section 105c(8). That class includes only plants for which a section 104b (research and development) construction permit had been granted prior to the passage of 1970 amendments and in connection with which antitrust review had been sought, concededly not this case. (App. Tr. 13.).

The Justice Department agrees with the staff that "the plain language of section 105c(8)" does not provide for the kind of relief requested by the applicant. It also argues that the legislative history confirms this reading of the "grandfather clause" and joins the staff in asserting that the "plain and unambiguous" language of the section precludes the Commission from "carving out" additional exceptions from prelicense review or broadening those exceptions that already exist.

The City of Cleveland concurs in the positions taken by Justice and the staff. It reads the relevant legislative history as establishing Congress' primary interest in prelicensing antitrust review, and asserts that any exceptions from that review must be clearly justified in the language of the statute. In Cleveland's judgment, the exception sought by the applicant is not justified.

## III

1. Section 105c(8) addresses two distinct situations: *first*, where "any application for a construction permit [was] on file" as of a certain date, and, *second*, where "any application for an operating license" meets specific conditions. For applications falling within those situations, the section provides that "the Commission * * * may issue a construction permit *or* operating license in advance of completing its antitrust review"(emphasis added).[7] Had Congress meant to "grandfather" operating licenses in addition to construction permits in the first situation, it would have been simple enough for the legislature to have used the conjunctive "*and*" rather than the disjunctive "*or*" in delineating the Commission's authority to award such licenses prior to antitrust review.

We therefore agree that the Licensing Board gave the best reading to the grandfather clause, if measured by standard English usage and grammar. But even assuming that when so read the provision is "unambiguous" and its meaning "plain," the results of grammatical analysis are the beginning of statutory construction, not the end. It is the obligation of any tribunal called upon to breathe life into the cold words of a statute to do so in a manner which gives effect to the legislative will.[8] The canons of statutory construction are not Commandments; the "plain meaning rule" is "an axiom of experience [not] a

---

[7] Subject to other requirements in the provision not material for purposes of this discussion.

[8] "The notion that because the words of a statute are plain, its meaning is also plain, is merely pernicious oversimplification. It is a wooden English doctrine of rather recent vintage to which lip service has on occasion been given here, but which since the days of Marshall this court has rejected, especially in practice.

"A statute, like other living organisms, derives significance and sustenance from its environment, from which it cannot be severed without being mutilated." (Citations omitted.) *United States* v. *Monia*, 317 U.S. 424, 431-32 (1943) (Frankfurter, J., dissenting).

rule of law";[9] and "even the most basic general principles of statutory construction must yield to clear contrary evidence of legislative intent."[10]

"Of course it is true," as Judge Learned Hand has written, "that the words used, even in their literal sense, are the primary, and ordinarily the most reliable, source of interpreting the meaning of any writing: be it a statute, a contract, or anything else. But it is one of the surest indexes of a mature and developed jurisprudence not to make a fortress out of the dictionary; but to remember that statutes always have some purpose or object to accomplish, whose sympathetic and imaginative discovery is the surest guide to their meaning."[11] Because "words are inexact tools at best," modern Supreme Court decisions teach that "there is wisely no rule of law forbidding resort to explanatory legislative history no matter how clear the words may appear on superficial examinations."[12] Accordingly, it is "fundamental that a section of a statute should not be read in isolation from the context of the whole act," and that "in interpreting legislation, 'we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.' " *Richards* v. *United States*, 369 U.S. 1, 11 (1962) (quoting *United States* v. *Boisdoré's Heirs*, 49 U.S. (8 How.) 113, 122 (1850) (Taney, Ch. J.)); *Philbrook* v. *Goldgett*, 421 U.S. 707, 713 (1975).[13]

[9] *Boston Sand and Gravel Co.* v. *United States* 278 U.S. 41, 48 (1928) (Holmes, J.).

[10] *National R.R. Passenger Corp.* v. *Passenger Ass'n*, 414 U.S. 453, 458 (1974).

[11] *Cabell* v. *Markham*, 148 F.2d 737, 739 (2nd Cir.), *affirmed*, 326 U.S. 404 (1945).

[12] *Harrison* v. *Northern Trust Co.*, 317 U.S. 476, 479 (1943). *Accord: United States* v. *American Trucking Association*, 310 U.S. 534, 543-44 (1940); *Cass* v. *United States*, 417 U.S. 72, 77-79 (1974). The staff cites (*inter alia*) *Caminetti* v. *United States*, 242 U.S. 470 (1917), as contrary authority (Br. p. 5). The majority there interpreted the Mann Act, 36 Stat. 825, which forbade the taking of a woman across state lines for purposes of "prostitution or debauchery, or for any other immoral purpose," to apply to the defendant's trip from Sacramento to Reno with a woman not his wife. Based on the Act's legislative history, the minority dissented on the ground that the statute was meant to reach the "white slave trade," not voluntary sportive ventures such as Mr. Caminetti's. *Quaere* whether *Caminetti* would be similarly decided today.

[13] See Arthur W. Murphy, *Old Maxims Never Die: The "Plain-Meaning Rule" and Statutory Construction in the "Modern" Federal Courts*, 75 Colum. L. Rev. 1299, 1315-16 (1975). Professor Murphy served for many years as a member of the Atomic Safety and Licensing Board Panel. He observes in his article that

> For the courts to swear off the plain meaning rule would not in and of itself bring about a coherent approach to legislative interpretation, but it would be a start. It should help to remind the courts that no words have a fixed meaning good for all circumstances and time; that, while most situations will be free from doubt, once a 'reasonable conflict of probabilities presents itself, they can no longer pretend that a dictionary is all the guide they need. Abandonment of the plain meaning rule should also force the courts to rationalize the use of legislative history. * * * In many cases [the rule] seems to be used as a heaven-sent excuse not to undertake the tedious 'archeological' inquiry into the bones and potsherds of legislative history so painstakingly marshalled by counsel. Frequently, one can almost hear the sigh of relief accompanying the 'no need to resort' language. But understandable as that reaction is, ignoring relevant history does not solve the problem.

In short, in construing statutes, "context and purpose outweigh syntax."[14] We therefore turn to an examination of the "grandfather clause" in context, and look into the situation it was meant to redress and at the way in which it was to harmonize with related provisions of the Atomic Energy Act.

2. The problems which Congress sought to put to rest by amending section 105c in 1970 are described in detail in the report of the Joint Committee on Atomic Energy on the proposed amendments.[15] It is sufficient for our purposes to note that, prior to the passage of those amendments, no power reactor could be licensed for commercial purposes under section 103 of the Act until the Atomic Energy Commission made "a finding in writing" that the proposed facility "has been sufficiently developed to be of practical value for industrial or commercial purposes."[16] Before 1970, the Commission had declined to make any such finding and had, therefore, licensed all nuclear power plants as "research and development" reactors under section 104b of the Act. This avoided a number of serious problems which would come to the surface upon any finding of "practical value."[17] Among them were the extent of the Commission's obligation to take the antitrust laws into account in granting commercial licenses and the manner in which it should do so. Under section 104b, such considerations were unnecessary; under section 103 they were mandatory. The difficulty lay in the fact that the standards to be applied and the procedures to be followed under section 103 were less than clear.[18]

The situation was apparently brought to a head in 1969 by the decision of the Court of Appeals for the District of Columbia Circuit in *Cities of Statesville* v. *A.E.C.*, 441 F.2d 962 (*in banc*). This was an action by municipal organizations claiming to have been improperly excluded from utility company ventures to construct and operate nuclear power plants. The municipalities asserted that the AEC had erred in denying their petitions to intervene in construction permit proceedings to challenge the utilities' applications on antitrust grounds. The Commission had denied intervention because it had not yet made a "practical value" determination and was treating all applications for permits to construct nuclear power plants as coming under section 104b. As we noted, antitrust considerations were irrelevant to the grant or denial of such "research and development" permits.

The municipalities sought to overturn the Commission's rulings in the District of Columbia Circuit. The Court of Appeals, however, upheld the

---

[14] *Kansas Gas and Electric Company et al.* (Wolf Creek, Unit 1), ALAB-321, NRCI-76/4 293, 311 (April 7, 1976).

[15] H.R. Rep. No. 91-1470 (also S. Rep. No. 91-1247), 91st Cong., 2nd Sess. (1970) (*"Joint Committee Report"*).

[16] *Joint Committee Report*, p. 8.

[17] *Id.* at 13.

[18] *Id.* at 12-13.

agency's award of construction permits under section 104b. But, in doing so, it warned the Commission that when the time came to consider operating licenses for the plants, "if the trade [had] shown that these nuclear reactors are competitive in the commercial sense and it is clear that a commercial license is appropriate, then the Commission must consider, under section 105(c), anticipatory antitrust impact." *Cities of Statesville, supra,* 441 F.2d at 974.[19]

It became evident in 1969 that the time was fast approaching (if it had not already arrived) when nuclear power plants would have to be recognized as commerically competitive.[20] Congress elected to deal with this issue itself rather than leave it entirely in the hands of the Commission. To this end the Joint Committee held extensive hearings on the subject of "Prelicensing Antitrust Review of Nuclear Power Plants."[21] The Committee heard from individuals whose major concern was that needed nuclear power plants not be delayed, as well as from those who feared that without mandatory prelicensing antitrust review the smaller municipal and cooperative utilities would never get their fair share of nuclear-generated power.[22]

The legislation which emerged from the Joint Committee—particularly the amendments to section 105c—represented a compromise between those compet-

---

[19] See also 441 F.2d at 979 (concurring opinion of Judge McGowan), 984 (concurring opinion of Judges Leventhal, Wright and Robinson), and 994 (partial dissent of Chief Judge Bazelon).

[20] "Technology has proceeded, and now it is quite obvious that nuclear power has commercial value, and this seems to have overtaken the present law." Remarks of Representative Hosmer, 116 Cong. Rec. 9447 (daily ed. Sept. 20, 1970); See also *Cities of Statesville, supra,* 441 F.2d at 992-95 (dissenting opinion of Chief Judge Bazelon).

[21] *Hearings before the Joint Committee on Atomic Energy on Prelicensing Antitrust Review of Nuclear Power Plants,* 91st Cong., 1st Sess. (Part I, 1969) and 2nd Sess. (Part 2, 1970). (Hereafter cited as "*Hearings.*")

[22] Compare, for example, the testimony of Mr. James H. Campbell, President of the Consumers Power Company, a Michigan utility (opposing antitrust review), with that of Mr. J. O. Tally, Jr., General Counsel, Electric Cities of North Carolina (supporting prelicensing review) at *Hearings,* Vol. 2., pp. 481 *ff.* and 515 *ff.* The Joint Committee Report itself made note of the dichotomy of opinion on this subject (p. 14):

> Of course, the committee is intensely aware that around the subject of prelicensing review and the provisions of subsection 105c., hover opinions and emotions ranging from one extreme to the other pole. At one extremity is the view that no prelicensing antitrust review is either necessary or advisable * * *. Additionally, there are those who point out that it is unreasonable and unwise to inflict on the construction or operation of nuclear power plants and the AEC licensing process any antitrust review mechanism that is not required in connection with other types of generating facilities. At the opposite pole is the view that the licensing process should be used not only to nip in the bud any incipient antitrust situation but also to further such competitive postures, outside of the ambit of the provisions and established policies of the antitrust laws, as the Commission might consider beneficial to the free enterprise system. The Joint Committee does not favor, and the bill does not satisfy, either extreme view.

ing values. Representative Hosmer, the ranking minority member of the Joint Committee, stressed this fact during the House debates on the measure (116 Cong. Rec. 9446 (Daily ed. Sept. 30, 1970)):

> The committee and its staff spent many hours on the standard and the procedures described in the clarified, revised version of subsection 105(c). *The resulting product is a fair, reasonable compromise which the committee unanimously approved.* Frankly, I do not like each and every ingredient aspect of subsection 105(c) in the bill, and I do not know a single committee member who does. However, there are many aspects which I do favor, and this, too, represents the opinion of each of my colleagues on the committee. In its totality—as a package product—revised subsection 105(c) represents a desirable improvement of the present provisions, and I, together with all the members of the joint committee, support it. (Emphasis added.)

Senator Pastore, Vice Chairman of the Joint Committee, made the same point to the Senate (116 Cong. Rec. 19, 253 (Daily ed. Dec. 2, 1970)):

> *The end product, as delineated in H.R. 18679 [the bill embodying the 1970 Atomic Energy Act Amendments], is a carefully perfected compromise by the committee itself;* I want to emphasize that it does not represent the position, the preference, or the input of any of the special pleaders inside or outside of the Government. In the committee's judgment, revised subsection 105c., which the committee carefully put together to the satisfaction of all of its members, constitutes a balanced, moderate framework for a reasonable licensing review procedure. (Emphasis added.)

The 1970 amendments were enacted as proposed by the Joint Committee. In brief, they eliminated the need for the Commission to find "practical value" before licensing power reactors under section 103,[23] converted construction permits applications for power reactors pending under section 104b to section 103 applications (with exceptions not relevant here)[24] and established formal antitrust review procedures involving the participation of both the Attorney General and the Commission.[25]

---

[23] Section 102, 42 U.S.C. §2132, which had formerly embodied the requirement that the Commission find "practical value" before licensing commercial reactors under section 103, was amended in the 1970 legislation to delete that requirement. See *Joint Committee Report*, pp. 13, 26.

[24] Section 102a, 42 U.S.C. §2132(a), was amended to require after December 19, 1970, all licenses for commercial nuclear facilities to be issued under section 103. Sections 102b and 102c embody exceptions to that policy which are not relevant, however, to construction permit applications on file as of that date, the case here.

[25] See Joint Committee Report at pp. 28-31 and *Kansas Gas and Electric Company* (Wolf Creek Unit 1), ALAB-279, NRCI-75/6, 559 (1975).

As we have mentioned, Senator Pastore and Representative Hosmer had alluded to the fact that the 1970 amendments embodied a compromise between those favoring prelicensing review in all cases[26] and those opposed because fearful of delaying needed power plants. That compromise covered (among other things) the need for and the timing of the antitrust review. In substance, existing and planned nuclear power generating facilities were classified in accordance with the progress they made through the Commission licensing process as of December 19, 1970 (when the 1970 amendments took effect). Those power plants which had previously been given operating licenses under section 104b were treated as having completed the licensing process; they were exempted from any further antitrust review.[27] A second group was composed of plants still in the planning stage for which no construction permit applications had been filed. For these plants, which had not yet begun the Commission licensing process, completion of antitrust review was made a prerequisite for a construction permit.[28] And, if circumstances changed, a further antitrust review would be needed before an operating license could issue.[29]

In the last category were placed those power plants with construction permit applications pending before the Commission at the cutoff date or which had yet to receive operating licenses. With certain exceptions not relevant to the Davis-Besse facility, these applications were also made subject to antitrust review. A facility in this group, however, could complete the particular stage of the licensing process on which it was then embarked and receive—in advance of that antitrust review—either a construction permit or an operating license (as the case might be) subject to modification in accordance with the ultimate outcome of that review. As we read the 1970 amendments to section 105c in light of their legislative history, the vehicle designed to reach this result was the "grandfather clause." It fits smoothly into the scheme of the Act for this purpose.

As we noted, the basic premise under section 105c is that where antitrust review is necessary, its completion is a prerequisite to receiving a license for

---

[26] Senator Aiken, one of the main proponents of section 105c, was among those adamant on prelicensing antitrust review. See, *Hearings*, Vol. 2, pp. 426, 447, 525-26 and 556.

[27] Section 102b, 42 U.S.C. §2132(b), provides that commercial facilities licensed to operate under section 104b before December 19, 1970 remain under that section even if future licenses are to be issued for them. Sections 105c(1), (2) and (3) dictate when antitrust review is required and do not encompass situations where a section 104b operating license was issued before December 19, 1970. The Joint Committee declined to require antitrust review for those reactors because it believed that to do so would impose an unnecessary hardship. *Joint Committee Report* at 26-27.

[28] Unless all the parties to the proceeding agreed otherwise. *See, Louisiana Power and Light Co.* (Waterford Unit 3), CLI-73-7, 6 AEC 48, 50 (1973) and CLI-73-25, 6 AEC 619, 621-22 (1973)

[29] Section 105c(2), 42 U.S.C. §2135(c) (2).

construction or operation.[30] Section 105c(1) requires antitrust review of facilities covered by section 105c(2) and (3). Section 105c(2) governs, *inter alia*, any "application for license to construct or operate a utilization * * * facility under section 103," *viz.*, for a reactor intended for commercial or industrial use (as distinguished from one meant for research and development purposes). Section 105c(2) would mandate prelicensing antitrust review of every application for a commercial power reactor were it not for section 105c(8). That clause provides, "[w]ith respect to any application for a construction permit on file [on December 19, 1970] which permit would be for issuance under Section 103," that the Commission "may issue a construction permit * * * in advance of" antitrust review. In short, section 105c(8) "grandfathers"—*i.e.*, authorizes prior to completion of antitrust review—the award of construction permits applied for before the new antitrust procedures were instituted.

Similarly, where an operating license application for what was in effect a commercial power reactor remained to be acted upon after the 1970 cutoff date and antitrust review had earlier been sought and denied for the reasons we explained (see p. 337, *supra*), new section 105c(3) directed that such antitrust review was nevertheless to be conducted, if requested in writing within a specified period.[31] Again, completion of that review would have been necessary prior to award of an operating license but for the "grandfather clause." It is free of that prerequisite because section 105c(8) provides that "with respect to any application for an operating license in connection with which a written request for an antitrust review is made as provided for in [section 105c(3)]" the Commission may issue the license "in advance" of that review.

The parties have drawn our attention to many statements the legislative history which speak in glittering generalities either of the imperative need for prelicense review or of the utmost importance of not delaying power plants. Only two items, however, directly address the situation we face here. The first and most persuasive is the *Joint Committee Report* itself. It says (at pp. 31-32):

> Paragraph (8) [*i.e.*, section 105c(8)] endeavors to deal sensibly with those applications for a construction permit which, upon the enactment of the bill into law, would have to be converted to applications under section 103. In some cases, there might well be hardships caused by delays due to the new requirement for a potential antitrust review under revised subsection 105c. Paragraph (8) would authorize the Commission, after consultation with the Attorney General, to determine that the public interest would be served by the issuance of a permit containing conditions to assure that the results of a

[30] See *Waterford*, *supra*, fn. 27.

[31] 42 U.S.C. § 2135(c) (3).

subsequently conducted antitrust review would be given full force and effect. Paragraph (8) similarly applies to applications for an operating license in connection with which a written request for an antitrust review is made as provided for in paragraph (3).

We agree with the staff, the Attorney General and the city that, read against the background structure of the Act itself, the report indicates that the Joint Committee viewed the grandfather clause to cover only the two situations we described and did not actively consider its application to the circumstances at bar, *i.e.*, where, though the pending construction permit application was "grandfathered," antitrust review is still incomplete with the need for an operating license fast ripening. And, as the staff's brief further points out (p. 14), this reading is confirmed by Representative Hosmer in his remarks during the floor debates on the amendments. Mr. Hosmer, addressing himself to section 105c(8) specifically, told the House (116 Cong. Rec. 9446-47 (Daily ed. Sept. 30, 1970)):

> I want to make it perfectly clear that the principle of no impediment and no delay applicable to the transition provisions of this bill applies equally to *pending* construction permit applications and to *pending* operating license proceedings. There is need for expedience in *both* instances. (Emphasis supplied.)

In sum, the structure of the 1970 Atomic Energy Act Amendments and their legislative history confirm that, in Congress' active contemplation at least, the grandfather clause was designed to allow only *pending* proceedings to achieve fruition unimpeded by the need for antitrust review. Nothing in the legislative history of the Act or in the way the 1970 amendments were drafted suggested any need to "grandfather" both the construction *and* the operating licensing proceedings for a reactor where the former were pending in 1970. The underlying reason for this is plain. Congress simply expected the antitrust review

---

[3] [2] *Joint Committee Report*, pp. 15-16:

> The committee expects and will urge the Commission to make every reasonable effort to deal with the potential antitrust feature under subsection 105c. of the bill fully but expeditiously. Clearly, a separate board or boards should be utilized in the implementation of paragraphs (5) and (6) of subsection 105c. The Committee anticipates that all the functions contemplated by these paragraphs would be carried out before the radiological health and safety review and determination process is completed, so that the entire licensing procedure is not further extended in time by reason of the added antitrust review function.

In 1969-70, the time period for the safety review varied from one to two years. See Senator Pastore's remarks in the Senate, 116 Cong. Rec. 19253 (Daily ed. Dec. 2, 1970); testimony of J. Harris Ward, Chairman, Commonwealth Edison Co., *Hearings* at 392; testimony of Shearon Harris, Chairman and President of Carolina Power & Light Co., *Hearings* at 491.

to proceed simultaneously with the hearing on the construction permit (albeit before different boards) and fully anticipated the former to be completed long before any need might arise to consider the award of an operating license.[32]

Thus, the Act makes no *express* provision for the situation now before us. We turn next, then, to whether such an exception may be implied. If the antitrust review of a nuclear power plant has not been completed, may an operating license nonetheless be granted in circumstances where the construction permit for that plant was, in the language of section 105c(8), "on file at the time of enactment into law of this subsection [in 1970]?"

## IV

1. The applicants agree that there is nothing in the legislative history "to indicate that Congress even considered the possibility that what has transpired in [this] case could arise." (Br. p. 16). They stress, however, that this does not end the matter. Rather, they point out that it is our task, as it would be a court's, "to consider that answer the legislature would have made as to a problem that was neither discussed nor contemplated." (Br. pp. 17-18, citations omitted). In their judgment, the premium Congress placed on "expeditious antitrust review" to insure prompt availability of low cost nuclear power requires that section 105c(8) be read to "grandfather" the operating license as well as the construction permit for Davis-Besse Unit 1. (*Ibid.*).

The opposing parties essentially espouse the view of the Board below that to do what applicants suggest "would be to rewrite the statute." As they see it, the legislature specified the two situations under which licenses might be grandfathered and, therefore, "it is not our role to assume that Congress had in mind other unspecified circumstances." LBP-76-2, NRCI-76/1 at 43.

We think the Licensing Board and the parties supporting its decision display too narrow an understanding of the role that the Commission—or any other agency or court for that matter—must play if it is to carry out the mandates of Congress. We agree of course that the adjudicatory role should not usurp the legislative function. But it is impossible to draw a precise line where adjudication stops and legislation starts. "The margin between the necessary and proper judicial function of construing statutes and that of filling gaps so large that doing so becomes essentially legislative, is necessarily one of degree." *United States* v. *Evans*, 333 U.S. 483, 486-87 (1948).[33]

---

[33] Congress had amended the Immigration Act to make it criminal to "conceal or harbor" an alien; however, they failed to specify the penalty for doing so. In *Evans*, the government argued that the penalty for bringing in an alien illegally should apply. The Court refused because it found (1) no legislative history to support this construction (the Commissioner-General had repeatedly sought Congress to include this penal wording in the statute without success), and (2) "concealing and harboring" was a lesser offense than "bringing in" an alien. 333 U.S. at 490-93.

Thus the courts often do effect additions to a statutory pattern where they must in order to effectuate Congress' purpose. For example, in *Cox* v. *Roth*, 348 U.S. 207 (1955), the Court held that a seaman could sue the estate of a deceased tortfeaser even though the Jones Act did not explicitly provide for the survival of a claim against an individual.[34] Another example is *Hills* v. *Whitlock Oil Services*, 450 F.2d 170 (10th Cir. 1971). There, the court of appeals held that a statute allowing the fee of a United States marshal for the cost involved in the "seizing and levying" of property also included costs due to "execution and judicial sales."[35] In short, in appropriate circumstances, adjudicators may "[r]esort to the policy of a law * * * to ameliorate its seeming harshness or to qualify its apparent absolutes."[36]

Just as it has long been accepted as the duty of the courts, when the occasion arises, "to say that however broad the language of the statute may be, [an] act, although within the letter, is not within the intention of the legislature, and therefore cannot be within the statute,"[37] so is it a recognized adjudicatory responsibility to determine whether a situation not specifically anticipated by Congress is, nevertheless, within the scope of an enactment.[38] In the recent words of Judge Leventhal:

> As we see it the issue must be viewed as one of legislative intent. And since there is neither express wording or legislative history on the precise issue, the intent must be imputed. The court must seek to discern and reconstruct what the legislature that enacted the statute would have contemplated for the court's action if it could have been able to foresee the precise situation.[39]

2. That we may depart from a literal reading of a statute in order to give it the effect Congress intended is one matter; whether we should do so in this case

---

[34] The Jones Act extends to seamen the same rights granted to railroad employees by the FELA. The latter contained a provision allowing suit against receivers but not against a deceased individual because railroads, unlike ships, were rarely (if ever) owned by individuals. From this, the Court reasoned that Congress intended the Jones Act similarly to protect the employee's claim against the individual.

[35] Also see *SEC* v. *Capital Gains Research Bureau*, 374 U.S. 180, 198 (1963), where the Court held that the omission from the Investment Advisers Act of 1940 of a specific prohibition against nondisclosure, such as is contained in the Securities Act of 1933, did not render the SEC powerless to enjoin nondisclosure under the "fraud or deceit" provision of the 1940 Act.

[36] Cox v. *Roth*, *supra*, 348 U.S. at 209; *Markham* v. *Cabell*, *supra*, 326 U.S. at 409.

[37] *Church of the Holy Trinity* v. *United States*, 143 U.S. 46, 457, 472 (1892).

[38] *Burnet* v. *Guggenheim*, 288 U.S. 280, 285 (1933) (Cardozo, J.).

[39] *International Harvester Co.* v. *Ruckelshaus*, 478 F.2d 615, 648 (D.C. Cir. 1973). *Accord: Montana Power Co.* v. *FPC*, 445 F.2d 739, 746 (D.C. Cir. 1970) (*in banc*), *certiorari denied*, 400 U.S. 1013 (1971).

is another. Here we have legislation which embodies not one but two competing policies: no delay in licensing nuclear plants versus no licenses without antecedent antitrust review. Our perusal of the legislative history does indicate that the former was, as the applicants say, an important congressional consideration. But we cannot agree with them that it was the overriding consideration.

The statute undeniably contemplates that the aware of all post-1970 applications for construction permits—a far larger class than the one into which applicants fall—must await the result of prelicensing review. Congress recognized this fact when it provided for separate boards to enable the Commission to consider the health, safety and environmental and the antitrust aspects of applications simultaneously. But, as we noted (*supra*, pp. 340-341) should the latter proceeding continue beyond the former, no permit may be issued until the antitrust review is over. We think that this indicates a congressional concern to avoid delay, but not at the expense of prior antitrust review except where specified in the Act. We believe our judgment in this respect is confirmed by section 105c(2) of the Act. Under this provision—also enacted as part of the 1970 Amendments—even if prelicensing antitrust review was completed at the construction permit stage, an operating license may be withheld pending further such review where the applicant has significantly changed its activities or proposed activities in the interim. See *Joint Committee Report* at 29.

In short, as the Attorney General stresses—and as we noted earlier in this opinion (pp. 338-339, *supra*)—the legislative history of the 1970 Amendments disclose that they were "a carefully perfected compromise" and

> There is every evidence that section 105c as a whole represents a careful balance of the need for electric power and the Congress' expressed interest in reinforcing in the context of the Atomic Energy Act, the fundamental economic policies contained in the antitrust laws.[40]

Precisely because this is a situation where Congress was acting with deliberate care to accommodate competing—and to some extent incompatible—interests, we must hew carefully to the line which it elected to draw. We can say with confidence only that the case before us was not within Congress' awareness when it amended section 105c in 1970. What the national legislature would have done had it thought of the matter is not certain. As the briefs before us demonstrate, a fair case can be made both for and against "grandfathering" the Davis-Besse operating license. But no one can say with any real assurance that Congress would have wanted that license to be granted before its antitrust review

[40] Dept. of Justice br. p. 9 (footnote omitted).

was complete. In these circumstances, we must reject the applicants' arguments and affirm the ruling of the Licensing Board.[41]

3. In ruling against the applicants we are not unmindful of equities on their side. But it is in the nature of disagreements settled by compromise to be ragged at the edges. Lack of neatness, however, is no reason to refuse to give effect to a bargain fairly struck, whether in the legislature or elsewhere. Moreover, it is far from clear that this compromise will not in fact accommodate all the facilities caught in the "transition" to prelicense antitrust review. Only this plant and the Farley facility have received "grandfathered" construction permits but have not obtained operating licenses. Farley, we are given to understand, is still a good way from completion and, as we write, the antitrust trial involving that plant is drawing to a close. It also remains possible that the instant proceeding, too, may end before an operating license is needed for Unit 1.

In this bicentennial year we may be pardoned for recalling Edmund Burke's cogent observation that "[a]ll government—indeed every human enjoyment, every virtue and prudent act—is founded on compromise and barter." The compromise embodied in section 105c(8) has a virtue often lacking in such accommodations; it comes very close to satisfying the desires of all concerned—if in fact it does not do so completely. We have no hesitation in deciding that it must be enforced as written. Accordingly, the ruling referred to us by the Licensing Board is *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

[41] We are aware that our holding means that Davis-Besse Unit 1 may not be licensed before its antitrust review is complete although another provision of the Act, section 105c(6), 42 U.S.C. § 2135(c) (6), authorizes the Commission to license nuclear facilities found to cause adverse antitrust consequences after that review is completed. The anomaly is more apparent than real. The legislative history makes it very clear that the Commission was to resort to authority under section 105c(6) sparingly. It was to be invoked only in the exceptional case where the power from the plant is vitally needed and the antitrust impact of its operations cannot be otherwise ameliorated. See, *Joint Committee Report*, p. 31. See also the remarks of Senators Aiken, Metcalf and Hart in the debates on the 1970 Amendments. 116 Cong. Rec. 19254-57 (Daily ed. Dec. 2, 1970).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-324

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of

VIRGINIA ELECTRIC AND POWER COMPANY

(North Anna Power Station, Units 1 and 2)

Construction Permit Nos. CPPR-77 CPPR-78

Upon appeals in specially convened "show cause" proceeding from the Licensing Board's initial decision (LBP-75-54) determining that twelve statements regarding the geology and seismology of the North Anna Site made by the utility in connection with its license applications were materially false, within the meaning of Section 186 of the Atomic Energy Act, 42 U.S.C. 2236, and imposing civil monetary penalties and other sanctions for such statements, the Appeal Board determines that four of the statements were materially false and that the penalties and sanctions imposed should be modified.

Initial decision affirmed in part, modified in part, and reversed in part.

ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

A statement may be false within the meaning of Section 186 of the Atomic Energy Act even if it is made without knowledge of its falsity; *i.e.*, *scienter* is not a necessary element of a "false statement" for the purposes of that section.

ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

A statement is "material" within the meaning of Section 186 of the Atomic Energy Act if it has a natural tendency of capability to influence—not whether it does so in fact—the decision of the person or body to whom the statement is submitted.

ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

For the purposes of Section 186 of the Atomic Energy Act, the falsity and materiality of a statement submitted to the staff for its review hinges upon the

message which would likely be conveyed to a reasonable staff member by what was said or left unsaid and not upon the impression which would be derived by a lay reader of the statement.

## ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

The term "statement" as used in Section 186 of the Atomic Energy Act connotes some affirmative representation; the failure affirmatively to disclose a certain fact cannot be treated as, in and of itself, a "statement."

## ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

In passing upon the falsity of a particular statement, consideration may appropriately be given to any omissions of material fact and the effect that those omissions reasonably might have on the recipient's understanding of what was being affirmatively represented by the statement. A material false statement, may not be derived, however, from the failure *per se* to satisfy the reporting requirements of the Atomic Energy Act or Commission regulations.

## ATOMIC ENERGY ACT: REPORTING REQUIREMENTS

To establish a violation of a reporting requirement, the source of the asserted requirement must be both alleged and proven.

## RULES OF PRACTICE: ADMINISTRATIVE FAIRNESS

A party may not be prosecuted in an administrative proceeding on one theory and convicted on another. It must be given an adequate opportunity to present its case on the alternative theory.

## ATOMIC ENERGY ACT: MATERIAL FALSE STATEMENT

Section 186 of the Atomic Energy Act applies not only to any material false statement in a license application but also to any material false statement in a submission required by the Commission under Section 182a. of the Act.

## ATOMIC ENERGY ACT: DUTIES OF APPLICANTS

Under principles of agency law, the liability of a nuclear license applicant is affected by the knowledge of its employee concerning a matter upon which it is the employee's duty to give the employer information, irrespective of whether the employee's duties covered the subject matter of the information. Restatement of Agency (2d) §§ 272, 275 (1957).

ATOMIC ENERGY ACT: SANCTIONS

In determining appropriate sanctions to be imposed in a show-cause proceeding, a licensing board which has been delegated authority to suspend or revoke a license may, if appropriate, impose lesser sanctions such as civil monetary penalties or license conditions.

**Mr. Michael W. Maupin**, Richmond, Virginia (with whom **Mr. James N. Christman** was on the briefs) for the Virginia Electric and Power Company

**Mr. William H. Rodgers, Jr.**, Washington, D.C., for the North Anna Environmental Coalition.

**Mr. James E. Ryan, Jr.**, Assistant Attorney General of Virginia, Richmond, Virginia (with whom **Messrs. Andrew P. Miller**, Attorney General, **James E. Kulp**, Deputy Attorney General and **Frederick S. Fisher**, Assistant Attorney General were on the brief) for the Commonwealth of Virginia.

**Mr. William Massar** (with whom **Mr. Daniel T. Swanson** was on the brief) for the Nuclear Regulatory Commission staff.

## DECISION

## April 15, 1976

**Opinion of the Board by Mr. Rosenthal, in which Mr. Salzman joins.***

Section 186 of the Atomic Energy Act, 42 U.S.C. 2236, subjects any license issued under the authority of the Act to possible revocation

> for any material false statement in the application or any statement of fact required under section 182, or because of conditions revealed by such application or statement of fact or any report, record, or inspection or other means which would warrant the Commission to refuse to grant a license on an original application, or for failure to construct or operate a facility in accordance with the terms of the construction permit or license or the technical specifications in the application, or for violation of, or failure to observe any of the terms and provisions of this Act or of any regulation of the Commission.

*Except to the extent indicated in his separate opinion, Dr. Buck likewise joins in this opinion.

In addition, Section 234 of the Act, 42 U.S.C. 2282, provides that any person committing a violation for which a license may be revoked under section 186 shall

> be subject to a civil penalty, to be imposed by the Commission, of not to exceed $5,000 for each such violation: *Provided*, That in no event shall the total penalty payable by any person exceed $25,000 for all violations by such person occurring within any period of thirty consecutive days. If any violation is a continuing one, each day of such violation shall constitute a separate violation for the purpose of computing the applicable civil penalty.

Now before this Board is what appears to be the first occasion on which the holder of a nuclear license has been charged with having made false material statements in connection with its application for that license. The case reaches us on appeals from the initial decision of a licensing board which was specially convened by the Commission to consider the charges in the setting of a formal "show cause" proceeding. In that decision, on the basis of the record adduced before it, a majority of the Board concluded that twelve material false statements had been proven. LBP-75-54, NRCI-75/9 498, 518-34 (September 10, 1975).The majority further determined that the appropriate sanction was the imposition against the licensee of a $60,000 civil penalty ($5,000 for each of 12 statements) and certain other relief short of the revocation or suspension of the licenses involved. *Id.* at 538-40.

One of the members of the Board (Mr. Kornblith) dissented in part. In his view, the record established the existence of four, rather that twelve, material false statements. Respecting three of those four statements, he concurred in the majority's conclusion as to the warranted monetary sanction. Determining, however, that the fourth statement involved a continuing violation for the purposes of Section 234 of the Act, he would have assessed a penalty as to it in the amount of $75,000, Thus, he would have imposed an aggregate civil penalty of $90,000. *Id.* at 541-59.

Only two of the four parties to the proceeding noted appeals from the Licensing Board's decision. It has turned out, however, that no party is entirely satisfied with the result which that Board reached.[1]

## I

Before embarking upon a detailed consideration of the issues which we are called upon to decide, some background development is in order. The licensee

[1] One of the parties, the Commonwealth of Virginia, did not announce its disagreement with portions of the Licensing Board's decision until its presentation of oral argument before us. In its brief, it had urged the outright affirmance of that decision. The effect of this partial change in position was a full endorsement by Virginia of the appellate stance of the NRC staff.

here involved is the Virginia Electric and Power Company (VEPCO). All of the material false statements which it is alleged to have made relate to the seismic conditions at and in the vicinity of the site in Louisa County, Virginia, of its North Anna Power Station. This four-unit nuclear power facility is now under construction pursuant to permits which VEPCO has obtained from this Commission.[2]

1. The application for permits to construct Units 1 and 2 of the North Anna facility was filed in March 1969. Following an evidentiary hearing on the application in November 1970, the Licensing Board rendered in February 1971 an initial decision authorizing the issuance of construction permits for those two units. 4 AEC 544.[3] On February 19, 1971, the permits issued (CPPR-77 and CPPR-78).

The application for permits to construct Units 3 and 4 of the facility was filed in September 1971. An evidentiary hearing on that application was conducted in the Spring of 1973. In August 1973, the Licensing Board was advised by the Commission's staff of the pendancy of an investigation of a geologic fault which had come to light during excavation activities at the North Anna site in connection with the construction of Units 1 and 2. Thereafter, in October 1973, the staff took two actions: (1) it filed a motion in the Unit 3 and 4 construction permit proceeding in which it asked for a further and separate evidentiary hearing to determine whether there existed sufficient information to establish the adequacy of the seismic design of Units 3 and 4; and (2) the Director of Regulation issued an order directing VEPCO to show cause why the outstanding construction permits for Units 1 and 2 should not be suspended pending completion of the evaluation of the fault.

The staff's motion in the Units 3 and 4 proceeding was granted and, by stipulation of the parties, the separate hearing called for by that motion was consolidated with the Units 1 and 2 seismic show cause proceeding initiated by the Director of Regulation. The outcome was reflected in two initial decisions issued on June 27 and July 18, 1974, respectively. In the first of those two decisions, rendered in the seismic show cause proceeding, the Board resolved the question of the safety significance of the fault in VEPCO's favor. 7 AEC 1183. In the second decision, rendered in the Unit 3 and 4 construction permit proceeding, the Board incorporated by reference that seismic determination and, on the basis of its resolution of all of the other (non-seismic) issues before it,

[2] To the extent that the term "Commission" is used in this opinion in connection with events occurring before January 19, 1975, the reference is, of course, to the predecessor of the Nuclear Regulatory Commission–the Atomic Energy Commission. Pursuant to the provisions of the Energy Reorganization Act of 1974, 88 Stat. 1233, 42 U.S.C. 5801 *et. seq.*, on that date the NRC assumed the nuclear regulatory functions theretofore performed by the AEC.

[3] This Board altered the terms of one of the permit conditions directed by the Licensing Board but otherwise allowed that Board's decision to stand. ALAB-23, 4 AEC 590 (1971).

authorized the issuance of construction permits for those two units. 8 AEC 126.[4] Both decisions were later affirmed by us. ALAB-256, NRCI-75/1 10 (January 27, 1975).[5] And, just recently, the Court of Appeals for the District of Columbia Circuit in turn affirmed ALAB-256. *North Anna Environmental Coalition* v. *United States Nuclear Regulatory Commission, et al.*, 53 F.2d 655, 8 E.R.C. 1771 (March 3, 1976), rehearing *in banc* denied (April 7, 1976).

2. Whether VEPCO had made material false statements with regard to disclosing the seismic conditions at and in the vicinity of the North Anna Site was an issue first raised by the North Anna Environmental Coalition (Coalition), an intervenor (along with the Commonwealth of Virginia) in the seismic show cause proceeding involving Units 1 and 2.[6] More specifically, this so-called "disclosure" issue appears to have surfaced at a prehearing conference in that proceeding which was held on February 11, 1974. Thereafter, all parties to the show cause proceeding agreed that this issue should be considered independently of the question whether the geology of the site in fact posed a safety hazard. In this connection, it was stipulated that, upon receiving written notification of the results of the Commission staff's own investigation of the disclosure issue, the Coalition might request the Commission to direct a separate public hearing on the issue. If made, the request would be supported by both VEPCO and the staff.

In a report issued in March 1974, the staff concluded that there had been no violation of Commission regulations (J. Ex. 40, at p. 2).[7] The Coalition there-

[4] The Units 3 and 4 construction permits (CPPR-114 and CPPR-115) were issued pursuant to this authorization on July 26, 1974.

[5] ALAB-256 also affirmed still another 1974 *North Anna* Licensing Board decision, which is reported at 8 AEC 773. That decision pertained to the environmental aspects of Units 1 and 2. The construction permits for those units had been issued prior to the Commission's full implementation of the National Environmental Policy Act. Accordingly, pursuant to Section B of Appendix D to 10 CFR Part 50, a proceeding was instituted in December 1972 for the purpose of determining whether those construction permits should be terminated or modified for the protection of the environment.

[6] The Commonwealth had intervened in that proceeding under the "interested State" provisions of 10 CFR 2.715(c).

[7] It must be noted that the report explicitly stated that the purpose of the investigation had been to determine whether "the existence of a geological fault in the containment excavation of Unit 3 *was known* by [VEPCO] well before it was reported to the [Commission] and, if so, whether this information had been *willfully* withheld from the [Commission] by VEPCO." See J. Ex. 40, at p. 1 (emphasis supplied). As will become apparent in the ensuing discussion in this opinion, those were not the questions which were presented in the proceeding at bar. Rather, VEPCO has been charged here with quite different violations. Thus, the outcome of the 1974 Commission investigation is of no present assistance to VEPCO. It also follows that there is no inconsistency between the conclusion of the investigators that no Commission regulations had been violated and the present position of the staff that VEPCO had made a number of material false statements in violation of Section 186 of the Act. To no extent is that position grounded upon the claim that VEPCO willfully withheld from the Commission its actual knowledge of a fault in the Unit 3 excavation containment.

upon petitioned for a hearing on the disclosure issue. By order of May 28, 1974, the Commission granted the petition; established a Licensing Board to conduct the public hearing "as to whether the construction permits for the North Anna Power Station should be suspended or revoked for allegedly material false statements by [VEPCO] in required submissions to the" Commission; and authorized that Board to take "whatever action it deems necessary to appropriately establish the specific issues for consideration at the hearing." 7 AEC 819.

In its August 1, 1974 prehearing conference order, the Board approved a stipulation of the issues to be decided which had been presented to it by all of the parties—VEPCO, the Coalition, Virginia and the staff. Appended to the stipulation was the Coalition's specification of alleged material false statements. This specification was further developed and refined by the Coalition in an October 21, 1974 filing. With respect to each identified statement, the Coalition detailed the foundation upon which the claim of falsity rested.[8]

The question of culpability was tried to the Licensing Board on an extensive stipulation of fact, numerous exhibits and the testimony adduced on three hearing days. On April 4, 1975 the Licensing Board issued an interlocutory order in which it announced its determination that twelve material false statements had been established. Subsequently, the Board heard evidence on the question of the appropriate remedy. Its September 10, 1975 final decision followed.

## II

We are confronted at the threshold with the necessity of deciding what is the meaning of "material false statement" as that phrase is used in Section 186. Not surprisingly, the parties are poles apart on that question. Yet, as shall be seen when we reach the point of our one-by-one examination of each particular statement encompassed by the specification of charges, the precise content to be given the statutory language is crucial.

None of the key words—"material," "false," "statement"—having been explicitly defined either in Section 186 or elsewhere in the Act, we start our inquiry by examing the legislative history in search of possible guidance respecting what Congress considered to be the reach of the terms it employed. Insofar as we can determine, that portion of Section 186 with which we are concerned had its genesis in H.R. 8862, 83rd Cong., 2nd Sess., and a companion bill, S. 3323, 83rd Cong. 2nd Sess. Both of these bills provided for the amendment of the Atomic Energy Act of 1946 by, *inter alia,* adding a new Section 186 which would permit the revocation of a license "for any false statement in the applica-

[8] The Coalition's specification embraced a total of 24 alleged material false statements. Before the hearing commenced, the Coalition withdrew its claim as to five of those statements. The remaining 19 were identified below, and shall be referred to by us, as Statements 1, 2, 4, 7, 10-24.

tion * * *." During the course of the public hearings held on the bills in May 1954, spokesmen for both the nuclear industry and certain Bar organizations sharply criticized the breadth of the proposed terms.

One witness expressed concern respecting the possibility that a licensee might be put "out of business for completely trivial violations" and "strongly urge[d] that the Commission be required to determine the materiality of [the] misstatements * * *." [9] Another witness also thought the proposed Section "unduly broad" because, under it, a license might "be revoked for any false statement in an application or statement of fact—not merely for a false statement of a material fact."[10]

Still other witnesses focused upon the narrowing of the reach of Section 186 in a different respect. The Joint Committee was informed that the Special Committee on Atomic Energy of the American Bar Association recommended the inclusion in the Section of a "specific provision * * * to the effect that [production and utilization licenses under the Act] might be suspended or revoked only for willful violation of the Act or for willful violation of regulations issued thereunder in protection of public health, safety and security * * *."[11] And the representative of the Association of the Bar of the City of New York went even further: "[w]e strongly urge that the revocation of licenses be limited to situations of fraud or willful or knowing breach of the license * * *." [12]

Congress reacted to these criticisms and suggestions by changing the phrase "any false statement" to read "any material false statement." Although thus imposing the requirement of materiality, Congress did not adopt, explicitly at least, the recommendation that the proposed Section be further altered to bring only willful or fraudulent conduct within its ambit.

This is the sum total of conceivably relevant legislative history either brought to our attention by the parties or uncovered in the course of our own independent research. And it tells us relatively little beyond what can be gleaned from the express wording of Section 186 itself. No one disputes that, on its face, the Section requires that the false statement be "material"—the disagreement on that score being restricted to the test for determining materiality (a matter as to which the legislative history is unhelpful). Thus, we are left with whatever inferences might appropriately be drawn from the congressional inaction on the suggestion that the Section be rewritten to encompass only willful misconduct.

With these considerations in mind, we now move on to an analysis of each of the significant statutory terms.

A. Falsity. The Board below rejected VEPCO's thesis that, in order to be

---

[9] *Hearings before the Joint Committee on Atomic Energy on S. 3323 and H. R. 8862*, 83rd Cong., 2nd Sess., at p. 352 (1954).

[10] *Id.* at 227.

[11] *Id.* at 58.

[12] *Id.* at 401.

reachable under Section 186, the statement must not only be untrue but, in addition, must have been made with knowledge of its falsity.[13] In thereby holding that *scienter* is not an element for the purposes of the Section, the Board relied upon (1) the absence of anything in Section 186 expressly requiring that *scienter* be established, taken in conjunction with the legislative history summarized above; (2) the fact that several other sections of the Atomic Energy Act, providing for the imposition of criminal penalties, specifically require that the conduct proscribed therein be "willful"[14] or undertaken "with intent to injure the United States or * * * to secure an advantage to any foreign nation";[15] and (3) the ultimate purpose of Section 186—namely, the protection of the public health and safety. In this connection, the Board quoted with approval the staff's view that "because the validity of the Commission's review of safety considerations could be affected by the reliability of statements made to it by an applicant, the Congress decided to require applicants to meet the standards of accuracy rather that merely the standards of good faith." NRCI-75/9 at 508-09.

On its appeal, VEPCO quarrels with both the Board's conclusion and the reasoning underlying it. Dismissing the Section 186 legislative history as being wholly inconclusive on the point, VEPCO maintains that Congress should be presumed to have intended the term "false" to be given what is said to be its most common jurisprudential meaning: "intentionally or knowingly untrue." To VEPCO, no policy underlying either Section 186 or the Atomic Energy Act in general would be offended were "false" to be so read.

We conclude otherwise. To begin with, even were one to disregard that it had been specifically requested to insert an explicit *scienter* requirement in Section 186, Congress' failure to have taken that step would still be significant. Certainly, the fact that Congress saw fit in other sections of the Act expressly to hinge culpability upon the existence of either willfulness or a specific intent permits, and may indeed compel, the inference that it did not desire a like result to obtain insofar as Section 186 was concerned. Granted, none of those other sections is concerned with false statements. But, contrary to VEPCO's argument, it cannot be readily assumed that Congress understood the term "false" to carry *per se* the necessary connotation of "knowingly false"—with the consequence that the addition of "knowingly," "intentionally" or similar language in Section 186 would have been thought to be mere surplusage. As the staff notes in

[13] Had this thesis been accepted, the necessary consequence would have been the total exoneration of VEPCO. It was stipulated that, at the time made, VEPCO thought each of the alleged material false statements to have been true. Further, none of the parties claims that there was an intent on VEPCO's part to deceive the Commission with respect to any geologic or seismic matter.

[14] Sections 222, 233 (42 U.S.C. 2272, 2273).

[15] Sections 224-226 (42 U.S.C. 2274-2276).

its brief, the counterpart to Section 186 found in the Federal Communications Act authorizes the FCC to revoke any broadcasting station license or construction permit "for false statements *knowingly* made in the application * * *." 47 U.S.C. 312 (a) (emphasis supplied).

In these circumstances, we should read a *scienter* requirement into Section 186 only if there is a judicially created imperative that we do so. We find none. True enough, as VEPCO maintains, the federal courts have held for the purposes of some statutes in the area of economic regulation—such as the Bankruptcy Act—that for a statement to be deemed "false" it must be one that is intentionally false or intended to decieve. See *e.g., Wolfe* v. *Tri-State Insurance Co.*, 407 F. 2d 16, 19 (10th Cir. 1969). But we do not understand those decisions to reach beyond the interpretation of the specific enactment then under scrutiny. More particularly, in none of them was there the slightest suggestion that a *scienter* requirement must *invariably* be implied in the application of proscriptions against the making of false statements.

We are dealing here with a statute which is primarily concerned with the protection of public health and safety —rather than with the economic aspects of commercial activity. In deciding whether Section 186 interdicts only intentional misconduct, that consideration has to be borne in mind. This follows from the teachings of the Supreme Court in the line of decisions exemplified by *United States* v. *Wiesenfeld Warehouse Co.*, 376 U.S. 86 (1964). In there reinforcing its earlier holdings that a *scienter* requirement was not to be read into Section 301(k) of the Federal Food, Drug and Cosmetic Act, 21 U.S.C. 331(k), (which *inter alia* imposes criminal sanctions for adulterating food), the Court pointed out:

> It is settled law in the area of food and drug regulation that a guilty intent is not always a prerequisite to the imposition of criminal sanctions. Food and drug legislation, concerned as it is with protecting the lives and health of human beings, under circumstance in which they might be unable to protect themselves, often "dispenses with the conventional requirement for criminal conduct—awareness of some wrongdoing. In the interest of the larger good it puts the burden of acting at hazard upon a person otherwise innocent but standing in responsible relation to a public danger. *United States* v. *Balint*, 258 US 250." *United States* v. *Dotterweich*, 320 US 277, 281, 88L ed 48, 51 64 S Ct 113.

376 U.S. at 91; see also, *United States* v. *Park*, 421 U.S. 658 (1975).

It is not open to question that those who would construct and operate a nuclear facility, in common with public storage warehouses in which foodstuffs are held (such as Wiesenfeld), stand "in responsible relation to a public danger." Nor can there be serious doubt respecting the vital importance which attaches to

the accuracy and completeness of the representations made to this Commission by the applicant for a nuclear license. Of necessity, those representations play a large role in the Commission's discharge of its statutory responsibility to insure that the grant of the license would not be "inimical * * * to the health and safety of the public." Section 103d. of the Atomic Energy Act, 42 U.S.C. 2133 (d). This being so, it scarcely would have been irrational for Congress to have concluded—as all objective indicia suggest that it did—that the presence of a material false statement in an application for a nuclear license should subject the person legally responsible for that statement (*i.e.*, the applicant) to the imposition of civil sanctions without regard to whether he, in fact, was aware of the falsity or had a specific intent to deceive the Commission.

We therefore endorse the Licensing Board's conclusion that *scienter* is not a necessary element of "false" within the meaning of Section 186. In doing so, we need not reach the Board's discussion of the applicability here of the non-delegable duty principles which govern the imposition of tort liability upon a principal in circumstances where extra hazardous activities have been negligently conducted on its behalf by an independent contractor. NRCI-75/9 at 503-06. VEPCO does not appear to be attempting to shield itself from civil liability on the theory that the misconduct (if any) was that of its contractors rather than itself. Nor, as will be seen in our later discussion of the specific charges leveled against VEPCO in this instance, would such a defense have been possible on the particular facts of this case. It will be time enough to consider the importation into Section 186 of the non-delegable duty concept when and if a concrete situation arises in which the facts require that the point be decided. For the pressent, it suffices to hold that it is not controlling whether, in making untrue statements, VEPCO was aware of their falsity or intended to deceive those to whom the statement was addressed.

One further observation must be made before closing this portion of our opinion. As will also be later seen, this case does *not* involve an attempt to hold VEPCO accountable under Section 186 for a statement which, although no basis existed upon which its falsity could have been perceived upon reasonable investigation at the time made, is nevertheless revealed by subsequent developments to be untrue. Although we therefore need not now come to grips with that question, we note in passing our substantial doubt that Section 186 accountability would exist in such circumstances. Scientific inquiry is an evolving process. Inherent in it is the need to draw interim judgments founded upon the best information then available. These judgments may survive the passage of time or may instead—as was the long held tenet that the atom is the smallest particle of matter—be subsequently demonstrated to be contrary to fact. Although Congress was understandably concerned that facts which are either known or ascertainable upon reasonable inquiry not be misrepresented, it seems most unlikely that the legislature intended Section 186 to make an applicant a

guarantor that every scientific judgment fairly made and fairly reported would not later be proven wrong.[16]

**B. Materiality.** As previously observed, Congress added the requirement of materiality without definition. Invoking what it thought to be the "plain meaning" of the term "material," the Licensing Board found the principal test to be whether "a reasonable staff member would, or should, consider [the content of the statement] in reaching a conclusion or in determining a course of action." NRCI-75/9 at 510. On this basis, the Board rejected both VEPCO's argument that reliance is an essential ingredient of materiality and the Coalition's claim that a statement should be regarded to be material "if a reasonable professional or citizen would attach importance to it in evaluating the suitability of a site for a nuclear power station." *Ibid.*

As on the question of the scope of the term "false," we think that the Board's conclusions are essentially correct. In the absence of anything to suggest that Congress may have intended "material" to be given some different meaning for the purposes of Section 186, we may properly assume that the legislative intent was to adopt that meaning normally given to the word in legal parlance. The Court of Appeals for the District of Columbia Circuit has enlightened us as to what that normal meaning is:

> The term "material" is used in many fields of law; for example, insurance law, bankruptcy, agency, motions for new trial upon the ground of newly discovered evidence, and in respect to perjury. In respect to materiality in perjury Blackstone said, "* * * for if it only be in some trifling collateral circumstance, to which no regard is paid, it is not penal." The meaning of the word appears to be consistent in these various fields. The test is whether the false statement has a natural tendency to influence, or was capable of influencing, the decision of the tribunal in making a determination required to be made.
>
> Materiality must be judged by the facts and circumstances in the particular case. The color of an accused's hair may be totally immaterial in one case, but in other circumstances the color of his hair may be not only material but decisively so.

*Weinstock* v. *United States*, 231 F.2d 699, 701-02 (1956); footnotes omitted.[17] See also, *Blake* v. *United States*, 323 F.2d 245, 246 (8th Cir. 1963); *Gonzalez* v. *United States*, 286 F.2d 118, 122 (10th Cir. 1960); *United States* v. *Krause*, 507

[16] We defer to the next section of this opinion the consideration of another question which, although discussed by the Licensing Board in the context of the test for determining materiality, also bears upon the test of falsity. See pp. 359-360, *infra*.

[17] The court's opinion collects, in fn. 6 at the conclusion of the first paragraph of the above-quoted passage, numerous decisions in accord with that view.

F.2d 113, 118 (5th Cir. 1975); *Securities and Exchange Com'n.* v. *Texan Gulf Sulphur Co.*, 401 F.2d 833, 849 (2nd Cir. 1968), *certiorari denied*, 394 U.S. 976 (1969).

It is clear from this formulation that it need not be shown that there was actual reliance upon the false statement; the test is whether the statement has a "natural tendency" or capability to influence—not whether it does so in fact. See also, *Blake* v. *United States, supra*, 323 F.2d at 247; *Robles* v. *United States*, 279 F.2d 401, 404 (9th Cir. 1960); *United States* v. *McGough*, 510 F.2d 598, 602 (5th Cir. 1975). By the same token, however, materiality is not established by a demonstration simply that some reader of the statement might be influenced thereby. Instead, the question is whether the decision of the person or body to whom the statement is submitted might be affected by the falsity. *Poulos* v. *United States*, 387 F.2d 4, 6 (10th Cir. 1968), and cases there cited.

In this instance, all the documents alleged to contain false statements were submitted to the Commission's staff. Although those documents (in common with most other information furnished in connection with VEPCO's applications for nuclear licenses) were then made available for public inspection, their purpose was to assist the staff in evaluating the applications. It is therefore of no moment in determining materiality here whether a lay person might view a particular statement in a different light than would the concerned members of the Commission's staff and, as a result, attach a higher degree of importance to it in reaching his own conclusions on the matter or matters to which the statement is addressed.[18]

A necessary corollary is that, whether a particular statement is untrue or misleading—and, if so, the importance which should be attributed to the falsity—hinges upon the message which would likely be conveyed to a reasonable staff member by what was said or left unsaid. In urging that falsity and materiality should instead be determined on the basis of the impression which would be derived by a lay reader of the statement, the Coalition points us to a judicial holding to the effect that, in order to fulfill its obligations under the National Environmental Policy Act, an agency must write its impact statements "in language that is understandable to non-technical minds." *Environmental Defense Fund, Inc.* v. *Corps of Engineers*, 348 F. Supp. 916, 933 (N.D. Miss. 1972), *affirmed*, 492 F.2d 1123 (5th Cir. 1974). Assuming this to be a correct inter-

[18] We have not overlooked the fact that an application for a construction permit or an operating license and its supporting documentation eventually become a part of the record in the adjudicatory proceeding on that application. With respect to none of the statements involved in this case, however, is there reason to conclude that a licensing or appeal board might have attached significance to what was represented therein although the staff would not have done so. Nor has a suggestion to such effect been made by any party. Accordingly, it is permissible to confine our consideration to the potential impact of each statement upon the Commission's staff.

pretation of the NEPA mandate, it has no application here. NEPA expressly provides that copies of environmental impact statements required thereby be made available to the public (42 U.S.C. 4332 (2) (c)); it is therefore a fair inference that Congress desired them to be prepared for a general audience. No similar mandate appears in the Atomic Energy Act with regard to any documents submitted by a utility as part of, or in conjunction with, its application to the Commission for a license to build or operate a nuclear power facility. Although Commission regulations do provide for public access to such submissions (10 CFR 2.790 and Part 9), we have been pointed to nothing in them which suggests that either the safety or the environmental information imparted to the Commission by an applicant must be cast in terms which one unversed in the technical matters under discussion would readily comprehend unaided. Given the burden that any such injunction could impose upon applicants, and the additional fact that a simplified treatment of the matter being covered by the document might well be accomplished only at the expense of inadequate detail or increased imprecision, it is quite understandable that the Commission has not seen fit to invoke the Coalitions's proposed standard.

But even were it possible to extract from the regulations some obligation upon utilities to cast their applications and supporting documentation in non-technical language, it would by no means perforce follow that a failure to satisfy that obligation could give rise, of itself, to a violation of the proscription against material false statements in Section 186. For the fact would still remain that, as above noted, applications are submitted to the Commission and the information supplied in connection therewith is required in order to enable the Commission to determine what course of regulatory action is appropriate. Congress assuredly was aware of these considerations when it enacted Section 186. It therefore seems most improbable that its underlying concern extended beyond the impression which the Commission itself might garner from what was represented to it by an applicant on matters deemed to be of importance to the disposition of the request for a nuclear license.

C. Statement. The Board below opined that "a failure to include material in a submission to, or filing before, the Commission is so critical to the Commission's need for a full disclosure of information on which to base its independent safety review that it may comprise a false and misleading statement." Thus, the Board held, "Section 186 applies not only to written and oral statements but to omissions as well." NRCI-75/9 at 507-08. In our view, this holding requires some qualification.

One can scarcely take issue with the Board's observation respecting the necessity that there be complete disclosure of all information pertinent to a thorough and sound Commission appraisal of the particular application under review. Indeed, the point is so obvious that it needs no extended discussion. But in testing the validity of the conclusion below, it must be kept in mind that the question before us is not whether sound policy considerations dictate that an

applicant which fails to bring relevant matter to the staff's attention be subject to possible license revocation or some other civil sanction. Nor even is the pivotal inquiry whether there is some provision in Section 186 which would authorize the imposition of such a sanction for the violation of existing reporting requirements. VEPCO has been charged in this proceeding with having made "material false statements"—and that alone. Thus, omissions in the information which was supplied to the staff are of relevance to VEPCO's accountability here if (and only to the extent that) those omissions can be said to have given rise to a "material false statement."

Beyond doubt, in common usage the term "statement" connotes some affirmative representation; [19] and none of the parties has brought to our attention any clear cut indication of a legislative purpose that it be given a more expansive content in the application of Section 186. As a consequence, we entertain substantial difficulty in accepting the seeming thesis of the several appellees that the failure affirmatively to disclose a certain fact can be treated as, *in and of itself*, a "statement." To illustrate, in most jurisdictions motorists have an established duty to disclose to the appropriate authorities all accidents which occasion personal injury or significant property damage. Although the failure to submit the required report following the occurrence of such an accident would be a violation of law, could that omission also be treated as a "statement" that the accident had not happened? We think not.

At the same time, however, it seems equally apparent that an omission of a material fact in the course of making an affirmative statement might well result in the conveyance of a totally false impression respecting the import of the statement. We turn once again to a hypothetical automobile accident for elucidation. Althought the accident had taken place in a dense fog which severely impaired visibility, in filing the required report the motorists involved had confined their disclosure of prevailing weather conditions to the observation (true insofar as it went) that "no rain or snow was falling or had fallen in the previous twenty-four hours, and the pavement was free of snow and ice." Plainly, the omission of any reference to the presence of the fog made the statement false in that it would be fairly understood by the report recipient to be an implicit affirmative representation that the state of the weather had no bearing on the accident.

Congress itself has long recognized that what has *not* been said in a "statement" may have a decided influence upon what message is imparted by that which is explicitly contained therein. The security laws, which have as a primary purpose the protection of the public against being misled in reaching investment decisions, specifically outlaw not merely affirmative untruths in a statement made in connection with a security transaction but, as well, the omission from

[19] See *Webster's Third New International Dictionary* (1971), p. 2229.

the statement of material facts which must be made known to the reader if the creation of an erroneous impression is to be avoided. See *e.g.*, 15 U.S.C. 77k(a), 77q(a), 78n(e), 78r(a). Along the same line, under the broad rule-making authority conferred upon it by 15 U.S.C. 78j(b), the Securities and Exchange Commission has promulgated its well-known Rule 10b-5, 17 CFR 240.10b-5, which makes it unlawful:

> * * * to make any untrue statement of a material fact *or to omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they are made, not misleading* * * *. [Emphasis supplied].

VEPCO emphasizes that Section 186 does not likewise contain a specific prohibition against the omission of material facts in the statements made by applicants. We are not persuaded, however, that consideration makes any difference. Even though advanced in a securities case, as we have seen there is generic validity to the observation of the court in *In re Caesars Palace Securities Litigation* 360 F. Supp. 366, 386 fn. 19 (S.D. N.Y. 1973), relied upon by the Licensing Board, that "[c]learly, the failure of a person to include material information in a necessary document can just as surely result in a false and misleading statement as would the inclusion of incorrect information." We perceive no basis for attributing to the Congress which enacted Section 186 an unawareness of this axiomatic proposition. Moreover, because the potential for extreme mischief is just as great irrespective of how the false impression of the true state of affairs may be created by the particular submission, we should not presume a legislative indifference to whether an applicant has offered the "whole truth" and not just part of it in its submission to the staff.

In sum, the Licensing Board's determination that "Section 186 applies not only to written and oral statements but to omissions as well" is too broadly cast. In passing upon the falsity of a particular statement (*i.e.*, affirmative written or oral representation), consideration may appropriately be given to any omissions of material fact and the effect that those omissions reasonably might have on the recipient's understanding of what was being represented by the statement. To the extent, however, that the ruling below might be taken to mean that a "material false statement" can be derived from the failure *per se* to satisfy the reporting requirements of the Atomic Energy Act or Commission regulations, that ruling is erroneous. It would twist the statutory terms with which we are concerned entirely out of shape to conclude that one who has stated not at all has stated falsely.

Even though not within the ambit of the "material false statement" proscription, a violation of a reporting requirement well may be reachable under the catch-all provisions of Section 186 addressed to the "violation of, or failure to observe any of the terms and provisions of this act or of any regulation of the Commission." See p. 349, *supra*. Since VEPCO was neither charged nor tried

under those provisions, we need not decide that question here. As Judge Prettyman has stressed, "[i]t is well established, specifically by the [administrative Procedure Act], by the case law, and by principles of fundamental fairness that one cannot be found guilty of an offense not encompassed by the complaint or of which he had no fair notice." *N.L.R.B.* v. *Tennsco Corp.*, 339 F.2d 396, 399 (6th Cir. 1954). Consequently, a party may not be prosecuted in an administrative proceeding on one theory and convicted on another. *Rodale Press, Inc.* v. *F.T.C.* 407 F 2d 1252, 1256-57 (D.C. Cir. 1968). *Cf. Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), ALAB-264, NRCI-75/4R 347, 356-57 (April 8, 1975).

One need not go beyond this case in search of a good reason for strict adherence to that settled principle. To establish a violation of a reporting requirement, the source of the asserted requirement must be both alleged and proven. On the other hand, a statement actually made may be both "false" and "material" even if not put forth in the purported fulfillment of a reporting requirement. In a word, the elements of the two offenses are not identical.[20]

## III

It is within the framework of the foregoing interpretation of the relevant provisions of Section 186 that we now consider specifically the several alleged material false statements which have been laid at VEPCO's doorstep. For convenience of discussion, the statements will be grouped by us in the same manner as by the Licensing Board in its initial decision.

Each statement or group of statements will be examined in its specific setting. In determining truth or falsity, as well as materiality, the context of the particular statement must necessarily be taken into account. Additionally, regard must be given to the respect(s) in which, according to the specification of charges, the statement was false. Even though this proceeding is civil rather than criminal in character, as just noted VEPCO was nonetheless entitled to sufficient notice of the foundation of the charges against it to enable it to prepare its

[20] Without arguing the matter at length, VEPCO complains that the Licensing Board also construed overbroadly the Section 186 phrase "in the application." We need not unduly concern ourselves with that complaint. Section 186 applies not only to any material false statement "in the application" but as well to "any [by necessary implication, material false] statement of fact required under section 182." For its part, Section 182a., 42 U.S.C. 2232(a), specifically authorizes the Commission "at any time after the filing of the original application, and before the expiration of the license, [to] require further written statements in order to enable the Commission to determine whether the application should be granted or denied or whether a license should be modified or revoked." All of the alleged material false statements for which VEPCO might be held accountable under the standards above enunciated were either concededly contained "in the application" or to be found in documents required by the Commission in the exercise of its Section 182 authority.

defense. It would thus be manifestly improper–if not amounting to a violation of due process–now to hold VEPCO liable on some basis other than that set forth in the specification which governed the course of the trial.

A. Statements 1, 2 and 4. As previously noted, the application for permits to construct Units 1 and 2 of the North Anna facility was filed in March 1969. As part of that application, and as required by Commission regulations, VEPCO submitted its preliminary Safety Analysis Report (PSAR) for those two units. As Appendix A to the PSAR, VEPCO furnished an additional report, dated January 13, 1969, which had been prepared by the engineering firm of Dames & Moore (J. Ex. 1, hereafter "1969 D & M report"). That report was addressed to the site environmental studies which Dames & Moore, VEPCO's consultant on (*inter alia*) seismic matters, had conducted during 1968 in cooperation with Stone & Webster (the architect-engineer for the North Anna Project). These studies embraced, although were not restricted to, an investigation of the geology of the site and its environs for the purpose of ascertaining seismic conditions.

The first three statements considered by the Licensing Board–identified as Statements 1, 2 and 4 respectively (see fn. 8, *supra*)–were contained in either the PSAR or the 1969 D & M report submitted in connection therewith. Specifically, those statements were:

> *1.* The nearest known fault to the site is located slightly southwest of the town of Mineral. If projected along the areal strike, the nearest approach of this fault would be about 4-½ miles to the northwest of the power station site * * *.

[1969 D & M report, p. IIA-13].

> *2.* The site is apparently free of faulting and structural anomalies. * * * Based on the results of our geologic studies, it is our opinion that there is no geologic feature of the site or surrounding area which adversely affects the intended use of the site.

[1969 D & M report, p. IIA-19].

> *4.* No known or suspected faults are present in the strata underlying the site. The closest known major faults are located near the Culpeper Triassic Basin, approximately 20 miles WNW of the site.

[PSAR, Units 1 and 3, Vol. 1, §2.4].

According to the specification of charges, each of these statements was false because, assertedly contrary to the import of the representations made therein, the 1968 seismic investigation had disclosed minor faulting at the reactor site itself. In addition, the statements were alleged to be misleading in that they omitted any explanatory discussion respecting the "suspected structural discontinuity" which (1) had been uncovered during that investigation; (2) had

been the subject of earlier Dames & Moore written progress reports furnished to VEPCO; and (3) had significantly increased the scope of the investigation.

The record does indeed establish that small shear faults had been discovered at the reactor site (S.F. 30)[21] and, further, that Boring 10, apparently made in August 1968, brought to light the possibility of a geological anomaly which might—or might not—be indicative of faulting (S.F. 23). The evidence also reflects, however, both that (1) upon further analysis, the investigators subsequently concluded that the faults were of no seismic importance and that the suspected anomaly did not exist (J. Ex. 70 at p. 7; S.F. 28); and (2) the presence of small shear faults, as well as of the possible anomaly, was revealed to the Commission's staff at pages IIA-17 and IIA-18 of the 1969 D & M report itself, (*i.e.*, in very close proximity to Statements 1 and 2, which appeared on pages IIA-13 and IIA-19 respectively).[22] In the staff's view, this constituted a "timely furnish[ing] to [it of] all the significant information" contained in the earlier Dames & Moore progress reports with respect to these geologic concerns (S.F. 20).

In short, as the Licensing Board found, there was no concealment from the staff of the information which the Coalition continues to maintain should have been factored into Statements 1, 2, and 4. That Board heavily relied upon this consideration, and the resultant opportunity given to the staff "to conduct its own independent review and investigation," in determining that the three statements were not both material and false. NRCI-75/9 at 519-20.

We think this reliance to have been justified. Of course, a representation which is facially untrue does not achieve veracity merely because the actual state of affairs has been disclosed elsewhere. At the same time, however, as we have held earlier in this opinion, whether a given statement is materially false must be judged in the light of the message which likely would be conveyed to the person to whom the statement is addressed. In the context of the present case, the question comes down to this: how might a reasonable staff member have interpreted the statements and then applied them in determining what course of regulatory action should be pursued?

Looking first at the two statements in the 1969 D & M report, we find it most difficult to conclude that a staff reader of the section of the report containing those statements might have deemed the terms "fault" and "faulting" to encompass minor shear faults, which indisputably are frequently found in large East Coast excavations (S.F. 30). To reach that conclusion, we would be required to make the unreasonable assumption that the reader would have blinded

[21] The stipulation of facts entered into by the parties consisted of numbered paragraphs. They are referred to herein as "S.F. ___"

[22] In addition, at p. IIA-16, the report referenced Plate IIA-7. That plate appears following p. IIA-19 and clearly shows the existence of shear movements on the site.

himself to everything else disclosed in the section—including the express revelation that there were minor shear faults at the site.

But we need not indulge in speculation on the point. For the record contains affirmative and uncontradicted evidence that "fault" and "faulting" would have been understood by the staff to refer to something beyond what was discovered on the side during the 1968 investigation. Asked how he would have interpreted the sentence "[t]he nearest known fault to the site is located slightly southwest of the town of Mineral," a staff geologist, Dr. Stepp, responded: "I would have read this statement to mean * * * that the nearest regional fault would be at Mineral. *I would not have read it to preclude small faults at the plant site area as indeed they were reported*" (Tr. 249, emphasis supplied). It is true that this testimony was specifically directed to the appearance of that sentence in a later (1971) report issued by Dames & Moore. See pp. 368-369, *infra*. It clearly has equal applicability, however, to the statements under present scrutiny.

Insofar as the assertion in Statement 2 that the site "is apparently free" of structural anomalies is concerned, John Briedis, in 1968 a Dames & Moore geologist actively involved in the seismic investigation, testified that, by the time the 1969 D & M report was written, further borings had already determined that no "anomaly" in actuality existed (J. Ex. 70 at p. 7). In light of this evidence, also uncontroverted, that assertion was literally true. And, since the staff was simultaneously informed of the geologic conditions which had prompted the further inquiry into whether a structural anomaly was present, it cannot be said that Statement 2 might have created the false impression that the existence of such an anomaly was never even thought to be a possibility.

Precisely the same considerations govern the disposition of Statement 4. Although appearing in the main body of the PSAR as distinguished from the D & M report submitted by way of an appendix, the representation in that statement that "[n]o known or suspected faults are present in the strata underlying the site" cannot be presumed to have been understood by the staff to negate the presence of small shear faults which are both common to the region and of no consequence. Among other things, on the very same page of the PSAR on which Statement 4 is contained, the reader was explicitly referred to the D & M report. Indeed, the PSAR discussion (including Statement 4) was specifically characterized as a summary of the "principal results of the geology phase of the [D & M] environmental study."

There is still a further consideration which bears upon at least the materiality of all three statements. As the Licensing Board pointed out, in 1969 an applicant was required to include in its PSAR "[a] description and safety assessment of the site on which the facility is to be located, with appropriate attention to features affecting facility design." NRCI-75/9 at 514. Special attention was to be directed to "the site evaluation factors identified in Part 100."

33 F R 18610 (December 17, 1968); 10 CFR 50.34 (a) (l) (1969 ed.). Those factors included:

> Physical characteristics of the site, including seismology, meteorology, geology and hydrology.
>
> (1) The design for the facility should conform to accepted building codes or standards for areas having equivalent earthquake histories. No facility should be located closer than one-fourth mile from the surface location of a known active earthquake fault.
>
> * * * * * *
>
> (3) Geological and hydrological characteristics of the proposed site may have a bearing on the consequences of an escape of radioactive material from the facility. Special precautions should be planned if a reactor is to be located at a site where a significant quantity of radioactive effluent might accidentally flow into nearby streams or rivers or might find ready access to underground water tables.

10 CFR 100.10 (c) (1969 ed.).

The regulations themselves offered no further guidance (such as is now provided by Appendix A to Part 100). The staff, however, had promulgated guidelines in 1966 (still effective in 1969) respecting the reach of the geologic and seismic discussion to be contained in safety analysis reports. Insofar as here relevant, applicants were told that:

> * * * geological formations beneath the facility in general play the same role in the architectural engineering of the structures for reactors as for any major industrial facility, and hardly justify exhaustive treatment in facility design reports to be submitted to the Commission. Except for the unusual situation in which the local * * * geology [has] particular influence on design, a great deal of information with respect to these matters need not be submitted * * *. * * * Emphasis should be on geological information explaining the need or the basis for any unusual design criteria because of geological anomalies.
>
> It is expected that the seismic history of a site will be examined. The extent of evaluations submitted in the Safety Analysis Report and the amount of supporting information should be roughly proportional to the probability of a seismic event and to the intensity of its effects. * * *[23]

[23] *A Guide for the Organization and Content of Safety Analysis Reports,* issued on June 30, 1966. The portion quoted above was supplied to the Licensing Board by the staff as an attachment to its letter of February 14, 1975 in response to Board inquiries during the course of the hearing (Tr. 289-97, 416-22).

These guidelines, taken together with the then current Commission regulation (10 CFR 50.34(a) (1), *supra*) suggest to us, as they did to Board member Kornblith below, that in 1969 the staff was "minimizing the importance of detailed geological information except for unusual situations." NRCI-75/9 at 543. More specifically, the staff appears to have been then of the view that it did not need, in the discharge of its regulatory function of passing upon the site suitability and seismic design aspects of a particular proposed reactor, to be apprised of minor faults or other geologic features determined by the applicant to be of no consequence to the facility design. It is unimportant here whether the staff was right in that view. What is of significance is what information the staff thought to be material to its scrutiny of an application, not what it should have thought relevant. In terms of Statements 1, 2 and 4, if the staff would not have regarded a reference in those statements to the shear faults to have been material to its review of the North Anna Units 1 and 2 applications, it scarcely can be found that the failure to have included such a reference in the statements had the effect of making them *materially* false.[24]

B. Statements 7, 10, 11, 13 and 14. The Licensing Board next directed its attention to statements relating to the geological conditions at and in the vicinity of the North Anna site which were made in documents furnished to the staff on September 15, 1971 and March 15, 1972 respectively. On the former date, VEPCO filed its Preliminary Safety Analysis Report for Units 3 and 4. Submitted in conjunction with the PSAR was a second Dames and Moore report, dated August 13, 1971 (J.Ex. 18, hereafter "1971 D & M report"). This covered additional site environmental studies undertaken in June and July of that year

[24] Before the Board below, the staff contended that Statements 1, 2 and 4 were not material false statements. On the appeal, however, it has changed its position. The staff now insists that the statements contravene Section 186 because they failed to take into account minor faulting at the location of a proposed dam, approximately five miles from the reactor site, which was to serve the cooling water needs of the facility. This faulting had come to VEPCO's attention on February 6, 1969 by reason of a geologic report submitted to it by Stone & Webster. But, unlike the faulting at the reactor site, it was not disclosed to the staff until after the filing of the PSAR. See p. 370, *infra*.

We decline to entertain this newly advanced theory. As has been noted, with respect to Statements 1, 2 and 4 the specification of charges rested exclusively on the disclosures pertaining to the reactor site itself. Additionally, the case was tried on that basis. Consequently, as staff counsel conceded with commendable candor at oral argument (App. Tr. 200-01), VEPCO had no notice below of the issue which the staff now belatedly seeks to raise and, therefore, was not given an "adequate opportunity to present [its] case on this issue." We think it "well settled" that the staff may not "change theories in midstream without giving respondents reasonable notice of the change." *Niagara Mohawk Power Corp.* (Nine Mile Point, Unit 2), *supra*, NRCI-75/4R at 355. That consideration is of itself sufficient to preclude the staff from asking that we overturn the Licensing Board's decision on the three statements in question because of the dam site faulting. See p. 363, *supra*. As will be shortly seen, however, that faulting must be considered in connection with other statements. See pp. 374-375, *infra*.

(to supplement studies made in 1968 and embraced in the 1969 D & M report). The March 15, 1972 submission was the Environmental Report required of VEPCO in connection with all four North Anna units.

The statements in question are five in number. The first three—identified as Statements 7,10 and 11—were contained in either the PSAR or the accompanying 1971 D & M report and read as follows:

> *7.* The closest known fault is located near Mineral, Virginia, 7.5 miles WSW of the site. Faulting of rock at the site is neither known nor is it suspected. Surface mapping, boring date, and the excavations for Units 1 & 2 all indicate continuity of strata.

[PSAR, Units 3 and 4, Vol. 1, §2.4].

> *10.* The nearest known fault to the site is located slightly southwest of the town of Mineral. If projected along the areal strike, the nearest approach of this fault would be about 4½ miles to the northwest of the power station site.

[1971 D & M report, p. IIA-14].

> *11.* The site is apparently free of faulting and structural anomalies * * *. Based on the results of our geologic studies it is our opinion that there is no geologic feature of the site or surrounding area which adversely affects the intended use of the site.

[1971 D & M report, pp. IIA-20, IIA-20, IIA-21].

The remaining two statements appeared in the Environmental Report. One of them Statement 13,[25] was identical to Statement 7 and seemingly had simply been carried over from the PSAR into supplements to the Environmental Report. Likewise, the other statement (No. 14)[26] was a repetition of the representation in Statement 11 that the site is "apparently free of faulting and structural anomalies."

The specification of charges asserted that these statements were materially false because of (1) the previously discussed disclosures during the 1968 site investigation; (2) the known presence of minor faulting at the location of a proposed dam, five miles from the reactor site;[27] and (3) certain discoveries made and events occurring during 1970 and 1971. With regard to each statement, the Licensing Board majority, over the dissent of Mr. Kornblith, determined that the charge was well-founded. NRCI-75/9 at 520-26.

---

[25] Environmental Report, Vol. 1, §2.4.

[26] Environmental Report, Vol. 2, p. C-22.

[27] As previously noted, the dam site faulting was not relied upon in the specification insofar as Statements 1, 2 and 4 were concerned. See fn. 24, *supra.*

1. We have already made note of the discoveries during the 1968 site investigation, their evaluation by the investigators and the way the staff was apprised of what had been found and concluded. Insofar as the dam site faulting is concerned, suffice it to say that, in a geologic report on "Dams, Dikes and Canals" (J. Ex. 23) furnished to VEPCO by Stone & Webster on February 6, 1969, it was indicated that

> a number of small shears have been encountered in borings taken at the proposed sites of dikes, canals, and the main dam. These faults have invariably been partially or totally healed by silicification and are believed to have occurred prior to, or contemporaneous with, the folding which is observed in the area. Because of the minor nature of the faulting observed in the borings, it is interpreted to represent the normal small-scale tearing which typically occurs in areas of folded rocks.
>
> The silicification of fault zones probably occurred during or after the Appalachian Orogeny (230-280 million years ago), since this was the last tectonic activity in the region and the zones do not show any evidence of post-silicification fracturing.
>
> No indications of fresh gouge zones or intense brecciation have been encountered in borings nor is any instance of recent faulting known or inferred to occur in the area.

It is stipulated that the staff did not become aware of the dam faulting until October 1973 and further that the report was not supplied to the staff prior to the following January (S.F. 35, 36).

In order to make a fair appraisal of the falsity and materiality of the representations in Statements 7, 10, 11, 13 and 14 which concern geological conditions on the reactor site itself—as distinguished from the dam site—a more detailed development of what transpired in 1970 and 1971 is necessary.

a. Our starting point is February 1970. A Stone & Webster employee on the North Anna Site then observed conditions which he thought might occasion a rock slide during the then on-going excavation activities for the Unit 1 containment. This prompted an inquiry by Stone & Webster officials concerned that the safety of their workmen might be threatened by excavation wall instability. In the course of the inquiry, a chlorite seam was discovered on the south side of the Unit 1 excavation. Since chlorite seams sometimes are associated with faulting, this discovery raised the possibility of the existence of a fault. A Stone & Webster geologist, John Briedis, was requested to look into the matter. S.F. 53, 54.

Mr. Briedis paid two visits to the site during February. On the second visit, extending over a period of three days (February 25-27), he mapped the excavation and took rock samples from the chlorite seam. These samples were delivered

for analysis (including X-ray examination) to three geologists on the staff of the Virginia Division of Mineral Resources (VDMR), an agency of the Commonwealth. On their immediate visual examination of the samples, these geologists expressed the opinion to Mr. Briedis, based upon their knowledge of the geologic conditions of the region, that the characteristics of the rock (specifically, the presence in the samples of slickensides,[28] cataclasts[29] and chlorite) might be indicative of a fault. S.F. 63, 67, 69.

Approximately three weeks later, Mr. Briedis was furnished with the VDMR's written report, dated March 19, 1970, of the results of its analysis of the rock samples (J. Ex. 31). Although the report did not contain an explicit conclusion regarding whether the samples indicated possible faulting, its revelations of their mineralogy were interpreted by Mr. Briedis to support his own assessment "that the chlorite zone was a compositional feature not related to a fault" (S.F. 70). This assessment was seemingly concurred in by other Stone & Webster personnel concerned with the geological conditions obtaining at the site (S.F. 55). It does not appear from the record that the VDMR geologists were asked at the time for their views regarding the import of the analysis. Several years later, however, during the course of the 1973-1974 Commission investigation of the Coalition's charges that VEPCO had known as early as 1970 of the existence of faulting in the containment excavation, several of those geologists were interviewed. Two of them (Messrs. Calver and Good) opined that the analysis of the rock samples had not indicated the presence of faulting (J. Ex. 40, at p. 18).

Although apparently no longer concerned that a fault might be associated with the chlorite seam, Mr. Briedis perceived a continuing problem of assuring that workers would not be endangered by rock slides. This problem was discussed with Dames & Moore personnel prior to the initiation by that firm in June 1971 of the additional site studies (in connection with the prospective construction of Units 3 and 4) which already have been mentioned. The result was a revision of the Dames & Moore boring program to call for drilling into the chlorite seam (S.F. 75). Insofar as relevant here, one of the borings taken (No. 630) disclosed (1) a one inch healed offset at a depth of 52 feet; and (2) an "altered zone" covering a depth range of 44½ to 56 feet (J. Ex. 18, at p. II A-16; J. Ex. 42, at p. 2).

The offset was subjected to optical analysis and determined to be "a feature formed by plastic flow during gneiss formation and folding rather than by fault-

[28] A slickenside is a "polished and smoothly striated [rock] surface that results from friction along a fault plane." American Geological Institute, *Glossary of Geology*, p. 665 (1972). A striated surface is one which has parallel depressions or narrow bands. *Id.* at 700-01.

[29] A cataclast is a rock which contains "angular [*i.e.* sharp cornered] fragments that have been produced by the crushing and fracturing of preexisting rocks as a result of mechanical forces in the [earth's] crust." *Glossary of Geology, supra*, fn. 28, at p. 110.

ing." These facts were duly reported at pages IIA-16 and IIA-17 of the 1971 D & M report issured in August.

With regard to the "altered zone," in its progress report to VEPCO dated June 16, 1971 (J. Ex. 42),[30] Dames & Moore called attention to the "anomalous conditions" (*i.e.*, high fracture frequency and some folding) found therein as a result of Boring 630 and expressed the belief that additional borings might be necessary to confirm that those conditions "are localized and not part of a significant adverse geologic structure." Thereafter, on July 7 and 9, 1971, respectively, two such borings were made, Nos. 645 and 644 (S.F. 82.). Although it did not discuss the purpose of these borings or employ the term "altered zone," the 1971 D & M report did contain separate logs for each of them (as well as for Boring 630).[31] These logs disclosed among other things (1) the existence of high fracture frequency in the material extracted from adjacent Borings 630 and 644; and (2) low fracture frequency and an absence of evidence of an offset at the location of Boring 645 (approximately 300 feet to the northeast); Further, the logs for Borings 630 and 644 specifically referred to the presence of chlorite. And, in the course of its discussion of the site bedrock, the report observed that "[c]hlorite layers * * * were encountered within the granite gneiss in the southern portion of the site" and that "some of these layers correlate with chlorite layers encountered in the reactor excavations for Units 1 and 2." *Id.* at IIA-16.

On July 13, 1971 shortly after Borings 644 and 645 had been made, a Dames & Moore field geologist named Charles Livingston brought some gneiss cores taken from "the North Anna project area" to Thomas Gathright, a VDMR geologist. When or how those cores had been acquired is not revealed by the record. It is stipulated, however, that Mr. Livingston requested Mr. Gathright's opinion as to "the origin of the chlorite zones in the cores and in the excavation for the reactor site" and that the latter responded to the effect that "the chlorite zone may be of fault origin." S.F. 81.

b. We now move back in time to February 23, 1970, two days before Mr. Briedis made his second trip to the site for the purpose of mapping the chlorite seam which then had recently been discovered. On that date, pursuant to a prior arrangement with Herbert Engleman, Jr., Dr. John Funkhouser, a geology professor at John Tyler Community College (near Richmond), made a site visit in the company of two of his students for the purpose of examining the Unit 1 excavation (J. Ex. 34, at p. 26).

Mr. Engleman, who escorted the visitors, was then VEPCO's resident engineer on the site. A graduate mechanical engineer with no geological training or experience, for many years he had been principally engaged in the design aspects

[30] Neither of the relevant progress reports submitted by Dames & Moore to VEPCO during its site studies (J. Ex. 42 and 43) was provided to the NRC staff as well (S.F. 80).

[31] These logs were included in Section B of Part I of the report as Plates Nos. IB-2ag; IB-2av; IB-2aw.

of hydroelectric and pumped storage facilities (J. Ex. 37, at pp. 5-7). In December 1969, he had received his North Anna assignment on a temporary basis (Tr. 172). In the capacity of resident engineer, his main responsibility was the oversight of the construction of the dam and he therefore spent most of his time at that location (Tr. 178, 208). At trial, he stated that he had not been in charge of the containment excavation work (Tr. 209). On the other hand, in a pre-trial deposition, he had represented that he was, in effect, in charge of the excavation site (J. Ex. 37, at p. 9). In any event, there is no doubt that he had become aware of the construction problems affiliated with the chlorite seam found in the Unit 1 excavation (Tr. 176, 186).

On the occasion of Dr. Funkhouser's February 23 visit, no mention of faulting was made (J. Ex. 34, at p. 34). A month later however Dr. Funkhouser again toured the excavation area. This time he was accompanied by two geology professors associated with the College of William and Mary (Drs. Bruce K. Goodwin and Stephen C. Clement), two students and Mr. Engleman (*Id.* at 70, 71).

The Licensing Board found that, upon emerging from the Unit 1 excavation, either Dr. Funkhouser or Dr. Goodwin advised Mr. Engleman of the presence of a "major fault" associated with the chlorite seam. NRCI-75/9 at 521. This finding was based exclusively upon a statement made by Dr. Funkhouser in a deposition taken by the NRC staff in September 1973 (J. Ex. 34, at p. 75). Having died in the meanwhile, Dr. Funkhouser was not available to testify at the trial in January 1975. Both Dr. Goodwin and Dr. Clement, however, did appear as witnesses. By then almost five years had elapsed since the site visit. Understandably, their memory of precisely what had been said to Mr. Engleman (and by whom) was quite hazy. They had no specific recollection of any reference being made to a "major" fault (Tr. 139). Nor could they corroborate Dr. Funkhouser's statement in his deposition that Mr. Engleman had registered "shock"—indeed "almost incredulity"—when informed of the fault (*Id.* at 138-40). The most that they could say with confidence was that there had been discussion of the existence of a fault and that it was their impression that by the end of the visit, Mr. Engleman "was aware that there was a fault there" (*Id.* at 135). Both professors also thought that the characterization of the chlorite seam as a fault had not made a "very major impression" upon Mr. Engleman (*Id.* at 193-40). More particularly, in Dr. Goodwin's view, Mr. Engleman had likely focused on the matter in terms of the engineering problems which might arise (*Id.* at 135). In this connection, it appears from the sum total of the testimony of Drs. Goodwin and Clement that the fault was discussed with Mr. Engleman in those terms, rather than with regard to possible seismic difficulties. Moreover, all three professors disclaimed having either given any geologic advice to Mr. Engleman or sought to pursue the fault question further with the geologists in the employ of VEPCO or its contractors (J. Ex. 34, at p. 79; J. Ex. 35, at p. 33; J. Ex. 36, at p. 28).

For his part, Mr. Engelman testified that he recalled having conversed with

the visiting professors. He did not remember the details of the conversation or any mention of faults. Had he been told of the existence of a fault of importance to the reactor, he would have notified his superiors. Tr. 180-82.

2. It is against this background that we must decide whether VEPCO misrepresented material facts when, in 1971 and 1972, it submitted documents to the staff which asserted that (1) there were no known faults within 7.5 miles of the site (Statements 7, 10 and 13); (2) faulting of the rock at the site was neither known nor suspected (Statements 7 and 13); (3) surface mapping, boring data and the excavation for the Units 1 and 2 all indicated continuity of strata (*Ibid.*); (4) the site was apparently free of faulting and structural anomalies (Statements 11 and 14); and (5) in Dames & Moore's opinion, based upon the results of its geologic studies, there was no geologic feature which adversely affected the intended use of the site (Statement 11).

a. As earlier seen, the same representations respecting the location of the nearest *known* fault and the absence of *known* faulting of the rock at the site had been contained in the PSAR for Units 1 and 2 and the first Dames & Moore environmental site report which had accompanied its submission to the staff in 1969 (J. Ex. 1). In Part IIIa of this opinion, see pp. 365-366, *supra*, we concluded that those representations had not been rendered false by the previous discovery on the reactor site of minor shear faults having no possible seismic importance. Those reasons apply equally to the repetition of the representations in the statements under present consideration. In common with the 1969 Dames & Moore report, the 1971 report (accompanying the Units 3 and 4 PSAR) made specific reference to the shear faults at the site (at pp. IIA-19 and IIA-20). And it was in the context of Statement 10, contained in the 1971 report, that Dr. Stepp had testified that he would not have taken the assertion that "the nearest known fault to the site is located southwest of the town of Mineral" to "preclude small faults at the plant site area as indeed they were reported." See Tr. 248-49; p. 366, *supra*.

The similar minor shear faults discovered at the dam site in 1969 are, however, a quite different matter. Since their existence did not come to the staff's attention until October 1973, it cannot be said on the basis of Dr. Stepp's testimony (or anything else we have found in the record) that the representations made in 1971 and 1972 that there were no known faults closer than Mineral would perforce have been understood by the staff to allow for the possible presence of faults at the dam site.[32] In view of the dam site faulting, we

[32] Put another way, there is nothing before us which would justify an inference that, at any time relevant hereto, the staff generically interpreted the term "fault," as used in submissions by applicants or licensees, to have reference solely to a fault of greater magnitude than the minor shear fauts under present consideration. The mere fact that the staff may not have been interested in faults of that character, and therefore did not insist that their existence be affirmatively reported, does not, of course, support such an inference. This is borne out by Dr. Stepp's explanation of why he did not construe Statement 10 as ruling out the presence of small faults on the reactor site. The assigned reason was that that presence had been reported; rather than that the term "fault" was thought by the staff to exclude by definition any inconsequential faulting not specifically required to be disclosed by then prevailing reporting criteria.

are constrained to hold, therefore, that the Licensing Board correctly determined that Statements 7, 10 and 13 were false to the extent that they represented that the closest known fault was in the vicinity of Mineral.

The question remains whether that falsity was material. In the case of Statements 7 and 10, clearly not. As of September 1971, when the Unit 3 and 4 PSAR and accompanying second Dames & Moore report (containing Statements 7 and 10 respectively) were submitted to the staff, there had been no change in the guidelines which had been promulgated many years earlier with respect to the content of the geologic and seismic discussion in safety analysis reports. We have already seen that the clear message conveyed by those guidelines was that the staff did not then perceive any necessity that it be informed of minor faults or other geologic features determined to be of no consequence to the facility design. There is no room for doubt on this record that the discovered dam site faults, if anything even more so than the reactor site faults, were of that stripe.

Although textually identical to Statement 7, as previously noted Statement 13 is found in a supplement to VEPCO's environmental report which was submitted to the staff six months later in March 1972. During that interval, the Commission put forth a proposed new Appendix A to 10 CFR Part 100, setting out "the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants." 36 FR 22601 *et. seq.* (November 25, 1971).[33] The following February, the staff revised its earlier reporting guidelines by means of a publication entitled "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants." Insofar as here relevant, the revision essentially reflected the content of proposed Appendix A.

The provisions of the proposed Appendix with which we need be concerned are quoted in the Licensing Board's decision. NRCI-75/9 at 515. As is readily apparent, they signaled a marked change in the prior staff approach regarding what had to be reported to it. While the 1966 guidelines had been cast in terms of the submission to, and consideration by, the staff of only such geologic and seismic data as might be thought to have a clear bearing upon facility design, proposed Appendix A and the implementing guide required the submission of much more information in aid of the staff's independent determination of site suitability.

In his dissent below, Mr. Kornblith expressed the view that, since the new criteria were directed to safety analysis, rather than environmental, reports, they are of no consequence in the appraisal of Statement 13. NRCI-75/9 at 554-55. If the issue were simply whether VEPCO had been placed under an affirmative

[33] The Commission noted its expectation that the proposed Appendix would serve as "interim guidance" until such time as it took "further action."

duty to disclose in its environmental report all minor shear faults discovered in the general vicinity of the reactor site, we might agree with that thesis. But that is not the issue. Irrespective of whether it was obliged by virtue of the new regulatory guidelines to discuss the presence of dam site faults in the environmental report, the fact remains that VEPCO chose to make a positive representation in that report which conveyed the false impression that such faults did not exist. If that representation was material as well as untrue, VEPCO violated Section 186 in making it. And, once again, its materiality hinges upon whether in March 1972 the staff might have carried out its duties differently had it not been erroneously told in effect that the dam site was free of known faults.[34]

We have examined the then proposed Appendix A and the implementing guide from this standpoint. Their provisions do not suggest to us that the staff might have pursued another course in its site suitability inquiry had it not been led to believe that the dam site was free of known faults. The new criteria did look to a determination of (1) "the lithologic, stratigraphic and structural geologic conditions of the site and the area surrounding the site, including its geologic history"; and (2) "geologic evidence of fault offset at or near the ground at or near the site." See NRCI-75/9 at 515. If the existence of garden-variety minor shear faults at the dam site might have been deemed by the staff to have a significant bearing upon those determinations and the conclusions derived therefrom, we have not been told about it. In this connection, it should be recalled that the staff was under no illusion that the area surrounding the reactor was devoid of minor faulting; to the contrary, it was fully aware that small shear faults were present on the reactor site itself.

The Board below also referred to the proposed Appendix A requirement that "[f]or faults greater than 1000 feet long, any part of which is within 5 miles of the site, [there is to be a] determination of whether these faults are active faults." NRCI-75/9 at 515. No party has pointed to anything in the record to indicate that the shear faults at the dam site even approached that length. Our own search had uncovered evidence to the contrary. See page S(E) 2.0-133 of Exhibit VX-9, which was introduced in the earlier *North Anna* seismic show cause proceeding at Tr. 187.[35]

The precise terms of the proposed appendix to one side, we have scrutinized the record before us with care in quest of anything which might be taken to reflect an actual staff concern in 1972 regarding the possible implications of

[34] That a particular assertion of fact may be beyond the scope of the document within which it is contained does not mean that it is necessarily devoid of materiality. The staff is entitled to assume the accuracy of, and to rely upon, any representation made to it by an applicant with regard to a safety or environment aspect of a nuclear facility—regardless of where that assertion happens to have been made.

[35] The record in that proceeding was by stipulation made part of the record in the Section 186 proceeding. See S.F. 5.

familiar shear faults located at some distance from the immediate locale of a reactor. That scrutiny has proved unavailing. Indeed, we have not found the slightest suggestion in either the testimony or the documentary evidence before us that the staff at any time took seriously even the faults of like character on the reactor site. If anything, the record taken as a whole points in the opposite direction, *e.g.*, although disclosed to the staff as early as 1969, those faults were apparently not deemed worthy of as much as passing mention in any subsequent staff document relating to the North Anna facility.

b. Proceeding to the representation in Statements 7 and 13 that faulting of the rock at the site was not "suspected," we are confronted at the outset with a sharp disagreement between the various parties respecting the importance which should attach to what was said to Mr. Engleman during the second site visit of the geology professors. The Coalition, Virginia and the NRC staff all insist that the Licensing Board correctly concluded that awareness of the professors' articulated concerns respecting the presence of a fault on the site is imputable to VEPCO. For its part, while acknowledging that "the knowledge of a servant gained within the scope of his authority may be attributable to his master," VEPCO stresses that Mr. Engleman's temporary assignment to the North Anna site did not involve any responsibility for geologic matters, that he was not versed in such matters by either education or experience, and that for these reasons he neither did (nor should be held to have been obliged to) grasp the significance of what he had been told.

In our view, there is something to be said for both sides of the controversy. To begin with, it is not dispositive that Mr. Engleman's assigned responsibilities did not extend to the geology of the site. Under settled doctrine, the "liability of a principal is affected by the knowledge of an agent concerning a matter as to which he acts within his power to bind the principal *or upon which it is his duty to give the principal information*." Restatement of Agency (2d) §§ 72, 275 (1957) (emphasis supplied). And it seems to us plain that, no matter what his particular area of responsibility, each VEPCO employee had the implicit, if not explicit, duty to disclose to appropriate company officials any information coming to his attention which he might be expected to know had a possible bearing upon the suitablity of the site from a safety standpoint. See *e.g.*, *Missouri Pacific R.R.Co.* v. *Winburn Tile Mfg. Co.*, 461 F.2d 984, 988 (8th Cir. 1972); *Bimini Run, LTD* v. *Belcher Oil Co.*, 336 F. 2d 184 (5th Cir. 1964).

The more difficult question is whether Mr. Engleman should have appreciated that the observations of the visiting professors had raised the possibility that the site posed potential seismic problems. On the one had, it is difficult to accept the notion that a relatively well-educated person such as Mr. Engleman would be totally ignorant of the import of the term "fault." At the same time, however, in their conversation with him none of the professors tied the alleged fault to a seismic concern but, rather, all appear to have confined themselves to the discrete engineering problems which might be associated with

the discovery which they had made; problems which by then were already being acted upon by Mr. Engleman as well as others.

The Licensing Board sidestepped the question with the observation that VEPCO itself was obliged to apprehend the significance of faults and "could not escape such duty by placing a representative at the site who assertedly did not understand" that significance. NRCI-75/9 at 523. We think that line of reasoning to be faulty. Making all due allowance for the broad reach of VEPCO's own responsibilities insofar as the geologic and seismic investigation of the site was concerned, we do not perceive any legal requirement that it have insured that every employee who undertook to escort visitors around its site be fully conversant on any subject which these visitors might have seen fit to discuss. In this connection, the record does not indicate that the announced purpose of the second visit was further to examine faulting which Dr. Funkhouser had observed during his earlier tour of the excavation; nor is there anything else to suggest that VEPCO or any of its representatives should have perceived a necessity to have a geologist present during that visit. This being so, we think that no breach of any legal responsibility would have been involved even had the professors been assigned a common laborer as their escort.

Thus, if the decisive consideration were whether VEPCO is chargeable with knowledge of what had been told to Mr. Engleman by the geology professors, in the writer's judgment there would be room for some doubt regarding the falsity of the representation that faulting at the site was not "suspected." [36] The Licensing Board found, however, the existence of other, independent reasons for concluding that representation was false; namely, the 1970 and 1971 investigations into whether the chlorite seam was indicative of faulting and the opinion voiced by VDMR geologists on two separate occasions that a fault might be present. NRCI-76/9 at pp. 523-24. We agree.

VEPCO does not deny, of course, that it properly can be charged with knowledge of both the investigations and the statements made to Dames & Moore personnel by the VDMR geologists. Rather, its defense is that, by September 1971, the investigation of the chlorite seam had reached the point at

[36] Mr. Salzman does not share this doubt. In his judgment, VEPCO placed its employee Mr. Engleman in a position to hold himself out to visitors as being in charge of the reactor site. VEPCO was aware that Mr. Engleman was not a common laborer but a graduate engineer. In the circumstances, VEPCO should have foreseen that a visitor to the site might reasonably assume that he was putting a responsible VEPCO official on notice by bringing a matter of consequence related to the project to the attention of Mr. Engleman. Having created this situation itself, VEPCO cannot now avoid the imputation to it of notice given to Mr. Engleman by claiming that he was too ignorant to appreciate the potential consequences of a "major fault" under a nuclear reactor or that reporting such matters was beyond the scope of his actual (as distinguished from his apparent) authority. Mr. Salzman therefore agrees with the conclusion of the majority of the Board below that VEPCO is chargeable with the knowledge reported by the three visiting geologists to Mr. Engleman that a fault was "suspected" by them and that for this additional reason, Statements 7 and 13 are false. See NRCI-75/9 at 521-24 and 526.

which the possibility of faulting had been rejected by Dames & Moore (and therefore by itself). Consequently, faulting was then no longer "suspected."

We consider this thesis to be untenable. In the first place, even though Dames & Moore may no longer have harbored any lingering suspicions regarding the presence of a fault, insofar as the record discloses the VDMR geologists still did.[37] More particularly, our attention has been called to nothing which would have permitted a finding that, prior to September 1971, the VDMR had advised either VEPCO or one of its contractors that it had become satisfied that there was no basis for continued concern. True enough, *several years later,* two VDMR geologists told a staff investigator that in their opinion the rock samples submitted for analysis in 1970 had not disclosed evidence of faulting (J. Ex. 40, at p. 18). But even were it to be assumed (without an evidentiary foundation) that that opinion had been previously tendered to VEPCO (or a contractor on its behalf), there would still remain the stipulated fact that a Dames & Moore employee was advised in July 1971 that it was the *then* view of a VDMR geologist (Mr. Gathright) that "the chlorite zone may be of fault origin" (S.F. 81). VEPCO did not attempt to establish below that that view had been withdrawn at any time during the two month interval before VEPCO filed, in September 1971, the second Dames & Moore report containing Statement 7.[38]

Secondly, the concerns of the VDMR geologists laid to one side, the omission of any reference to the fact that both Stone & Webster and Dames & Moore had seriously investigated the possibility of faulting conveyed an erroneous impression respecting the import of the representation that "faulting of rock at the site is [not] suspected." Despite that use of the present tense, *i.e.*, "is" and not "was," in context Statements 7 and 13 could fairly have been understood by a staff reader to represent not merely that faulting was not suspected at the precise time of writing (which appears to have been true), but as well that faulting had never been thought to be of sufficient concern to warrant

[37] As framed, the statement under consideration was not restricted in scope to whether VEPCO and its contractors "suspected" faulting. A staff member could have reasonably interpreted it to mean that no qualified geologist who had occasion to consider the matter harbored any suspicions regarding the existence of a fault.

[38] In an attempt to minimize the significance of S.F. 81, our dissenting colleague emphasizes (see p. 398, *infra*) that *in 1974* Mr. Gathright stated to a Commission investigator that he had visited the site *in 1973* and "it was *not clear* to him even then that there *was* a faulting" (J. Ex. 40, at p. 17; emphasis supplied). We fail to see, however, what bearing that has upon whether, *in 1971*, Mr. Gathright suspected that there might be a fault. Further, there is no record foundation for Dr. Buck's assumption regarding what Mr. Gathright meant by his 1971 statement; if that statement was intended to be nothing more than a generic observation regarding the possible fault origin of chlorite seams, it was VEPCO's obligation to bring out that fact at trial. Nevertheless, even were we to indulge in Dr. Buck's assumption, a different result would not be required. Even though by September 1971 Dames & Moore may have become satisfied that, in this instance, the chlorite zone was not of fault origin, once again there is nothing in the record to indicate that by then Mr. Gathright likewise had dismissed that possibility.

the expenditure of money and time in investigation (which was plainly not true).[39] In the final analysis, we see no consequential distinction between what we have here and, *e.g.*, a statement by a life insurance applicant, who had just experienced the apparently successful removal of a malignant tumor, that he "does not have cancer." Because of the employment of the present tense, the statement might be true in the most literal sense. But could it be seriously contended that the omission of mention of the surgery would not leave the insurance company with a distorted impression regarding the state of its applicant's health?

The insurance company could, of course, have justifiably regarded that omission as being one of a material fact; among other things, the company would have been effectively deprived of the opportunity to determine for itself whether the operation had been successful and therefore its applicant was an acceptable insurance risk. So too, we consider to be material the omission of any mention by VEPCO of either the opinions expressed by VDMR geologists or the fact that there had been inquiries made by VEPCO contractors for the express purpose of resolving a question which had arisen as to the presence of a fault.[40] Had the staff been alerted to these matters—instead of being left with the impression that significant faulting at the site had not ever been thought to be a real possibility—it might have considered itself duty-bound to look further into the subject itself. If nothing else, it might have deemed it necessary to examine more closely the methodology of the site investigation and to consult with the VDMR.[41]

---

[39] Contrary to Dr. Buck's assertion (see p. 396, *infra*), we do *not* imply that the record establishes that VEPCO intended to deceive the Commission respecting whether at an earlier time the existence of a fault had been suspected by either Stone & Webster or Dames & Moore. All that we do (or need) find is that Statements 7 and 13 could reasonably have been taken by the staff as a representation that such suspicions had never existed.

[40] While some of the measures taken by the contractors were disclosed to the staff in the 1971 Dames & Moore report (*e.g.*, the borings), the staff was not explicitly told of the concern that the chlorite seam might be indicative of a fault.

[41] Dr. Buck's counter analogy (see p. 396, *infra*) is simply inapposite. We are not dealing here with the geologic equivalent of a "garden variety wart"—*i.e.*, with an abnormality which by a simple procedure could be readily and definitively determined to be either of no consequence or of potentially serious dimensions. Rather, as we have seen, the seismic concerns arising during the course of the North Anna site environmental studies prompted an extensive investigation which, at most, could produce an expert *opinion* respecting whether significant faulting was present.

This being so, it is unimportant to our decision whether Dr. Buck is right that—at least if the biopsy of the wart had eliminated *as a matter of certainty* any possibility of a malignancy—the dermatologist in his hypothesis would have been justified in reporting to the patient (and, more pertinently, to a prospective insurer) merely that "no malignancy is suspected." In any event, Dames & Moore being unable likewise to rule out *as a matter of certainty* that the chlorite seam was not of fault origin, for the reasons which we have assigned in the accompanying text it was materially misleading for VEPCO to tell the staff that faulting "is" not suspected without, at the same time, apprising it of the prior suspicions which had occasioned the investigation.

It need be added only that the change in reporting standards which took place in the fall and winter of 1971 is of no relevance on this phase of the case. We are no longer dealing with minor and common shear faults which would not have been likely to arouse staff interest either before or after the promulgation of proposed Appendix A. Rather, as is evident from the measures taken to investigate it, the chlorite seam was regarded as having a much greater seismic potential. Even during that period when the staff approach reflected by the 1966 guidelines held sway, it seems more probable than not that the staff would have been influenced in deciding upon its own course by the knowledge that a fault in the chlorite seam had been suspected by Stone & Webster at least to the extent that an investigation was thought warranted.

c. Since we have found statements 7 and 13 to have been materially false by reason of their representation that "[f]aulting of rock * * * is [not] suspected," there is no compelling necessity to go on to decide whether those statements also contravened Section 186 because of the additional assertion therein that "[s]urface mapping, boring data, and the excavation for Units 1 and 2 all indicate continuity of strata." We note parenthetically, however, that the Licensing Board did not address itself to that assertion in its consideration of the statements and that none of the parties to the appeals has contended that the Board's failure to do so was error.

d. The representations that "[t]he site is apparently free of faulting and structural anomalies" (Statements 11 and 14) and that "[b]ased on the results of our geologic studies, it is our opinion that there is no geologic feature of the site or surrounding area which adversely affects the intended use of the site" (Statement 11) were made to the staff at the same times as the declaration that faulting was not suspected. There, however, the parallel ends.

The "nor is it suspected" averment was one of fact; and, as we have seen, did not either correctly or fully reflect the actual factual situation. In contrast, Statement 11 was contained in the "conclusions" portion of that section of the 1971 D&M report which addressed site geology. Given what was said, as well as the context in which it was advanced, it could not reasonably have been understood as offering anything more than the opinion which Dames & Moore had reached following its own site investigation. And the report disclosed what Dames & Moore had done and discovered in carrying out its geologic studies; *e.g.*, the borings, the revelation of the offset which had been subjected to optical analysis and found not to be due to faulting, the "altered zone" and the encountering of chlorite layers. See pp. 371-372, *supra*. Accordingly, the staff was on sufficient notice of the foundation underlying the judgment of VEPCO's geologic consultant. It also could not help but have apprehended that Statement 11 had reference to the existence or non-existence of *significant* faulting and structural anomalies.

Statement 14 was, once again, simply a carry-over of the first sentence of Statement 11 into VEPCO's environmental report for the four North Anna

units. That document did not repeat the entire geology discussion found in the Dames & Moore second report. But that discussion was in effect incorporated by reference; indeed, the reader of the VEPCO report was explicitly informed that he was being provided with but a summary of "the Dames & Moore investigations of site geology * * * and seismology" because the full Dames & Moore's report of those investigations "has previously been submitted in this docket." Environmental Report, Vol. 2, p. C-1.

In these circumstances, we cannot subscribe to the Licensing Board's finding that Statements 11 and 14 were false. Both statements represented, quite correctly, the conclusions which had been reached following a Dames & Moore investigation which has been neither alleged nor shown to have been inadequate or negligently conducted. Granted, the reader was not explicitly told either of the earlier uncertainties respecting the presence of a fault or that other experts (such as the VDMR geologists and the visiting professors) might hold a different view respecting faulting. But this scarcely can be regarded as having made the Statements misleading and thus false. Unless otherwise indicated, the expression of an opinion by an expert is no more than a representation of what that expert has *himself* concluded. By no means can it justifiably be taken as a further implicit representation that the matter was never in doubt or that, to his knowledge, all other experts who have looked into the question could be expected to endorse his conclusions.[42]

**C. Statements 12 and 15.** In addition to some of the statements which we have just considered, the 1971 Dames & Moore environmental site studies report (furnished to the staff in September of that year in conjunction with the PSAR for Units 3 and 4) contained a regional tectonic map (Plate IIA-2). An identical map was inserted at page C-28 of Volume 2 of the VEPCO Environmental Report for the four North Anna units, which was filed in March 1972.

The specification of charges identified these two map submissions as Statements 12 and 15, respectively. It was claimed that the maps were misleading, and thus amounted to false statements, because they failed "to disclose an important regional feature (Neuschel's lineament) material to an evaluation of the North Anna site." The Licensing Board majority, again over the dissent of Mr. Kornblith, agreed. NRCI-75/9 at 526-27.

---

[42] The Licensing Board viewed Statements 11 and 14 as false because, though Dames & Moore truly believed the site "apparently free of faulting," it did not couple that representation with any indication that the three visiting geologists and a VDMR geologist were of a different persuasion. But the statements in question are part of VEPCO's environmental report to the Commission dealing with site studies. In context, VEPCO's submission of the report without the qualification mentioned by the Licensing Board cannot be taken as a tacit representation that no other individual expert disagreed. At most, the circumstances justify the inference that no other comparable study of the site had been made which suggested the existence of faults. This, of course, was true at the time.

1. Neuschel's Lineament is a *postulated* fault which apparently first came to the attention of the Commission in a brief written report prepared by an employee of the United States Geological Survey (USGS) named Waldron (J. Ex. 44). That report, dated August 1, 1969, was specifically addressed to the USGS review, seemingly undertaken at the behest of the Commission, of the geology and foundation conditions at the North Anna site. In the report, which was promptly furnished to the Commission by USGS, Mr. Waldron referred to a map which had been recently constructed by one Reed and showed "a postulated major geologic structure" described as "a major northeast-trending fault a few miles east of the site." It was suggested that VEPCO be called upon to discuss the effect, if any, that this postulated structure might have "on the seismic potential of the site." In this connection, the report noted that a copy of the Reed map had been sent to Dames & Moore.

The staff did not act upon USGS suggestion (S.F. 84). A year later, however, USGS rendered its final report on the site, which again made note of the postulated fault but added that "there are no identifiable active faults or other recent geologic structures that could be expected to localize earthquakes in the immediate vicinity of the site" (*Ibid.*). Thereafter, in December 1970, Sherman H. Neuschel, also a USGS employee, published an article in a professional journal which, *inter alia,* dealt with the same postulated fault (S.F. 85). A staff consultant responsible for reviewing the construction permit application for Units 3 and 4 knew of this article and discussed it with Mr. Neuschel (*Ibid.*). But, insofar as the record reveals, no one associated with the staff attached the slightest importance to the lineament.

The regional tectonic map under present consideration was prepared in the summer of 1971 by Dames & Moore. It concededly did not reflect the lineament. But it was not claimed to embrace postulated faults. To the contrary, it was explicitly tendered for the purpose of showing "*known* structural features" and the location of "[t]he major shear zones closest to the site." 1971 D&M report, pp. IIA-4, IIA-5 (emphasis supplied). It is not contended that Neuschel's Lineament comes within either of these classifications.

2. In support of its conclusion of falsity, the Licensing Board observed that "[t]he Commission had a right to assume that the data submitted reflected an accurate current evaluation of all tectonic features and their relationship to the suitability of the site." NRCI-75/9 at 527. If the Board meant that the staff had a right to assume that *the maps* reflected all postulated geologic features, the observation was in error. VEPCO made quite clear precisely what the maps were intended to disclose: *known* geologic features. Neither the staff nor anyone else had an entitlement to presume otherwise.

The staff itself has explicitly acknowledged that "the submitted maps were what they were represented to be"; indeed, because of this very consideration, it asserted below that Statements 12 and 15 were not false. Although it now asks us to affirm the contrary result reached by the Board, it has not repudiated that

acknowledgement. Rather, its present position is that the maps reflected material false statements for the reason that they failed "to disclose information significant for purposes of safety review."

This line of reasoning loses sight of the nature of the charges leveled against VEPCO in this proceeding. As we have previously stressed, VEPCO has not been accused of violating a duty imposed by statute or regulation to disclose information needed by the staff to conduct its safety or environmental review. The accusation is instead that VEPCO made "material false statements" in the course of providing what information it did choose to submit. This being so, it is entirely irrelevant whether VEPCO was or was not under a duty to inform the staff of Neuschel's Lineament. Even if such a duty existed (despite the staff's then full awareness of that postulated feature), the fact still remains that the maps accurately and fully dealt with those matters to which the reader had been informed they were confined in scope (*viz.*, known features and major shear zones). Accordingly, they cannot be deemed misleading at all, let alone to the point of falsity.

In addition, the omission of Neuschel's Lineament from the regional tectonic maps was of dubious materiality. The staff insists that its own failure to have acted upon the USGS suggestion in 1969 that it ask for a Dames & Moore or Stone & Webster evaluation of the lineament did not mean that it thought that an evaluation was immaterial to the Staff's site review. For, we are told, there has been "no showing that the [s]taff did not make its own evaluation of the postulated fault." There are two short answers to this approach. First, assuming that it had been important to know whether it had evaluated the lineament, one might reasonably have expected *the staff* to have supplied the necessary illumination on the point. Second, if the staff did in fact conduct its own evaluation, it obviously lost nothing because of VEPCO's omission of the lineament from the maps; *i.e.*, it was able to pass judgment upon the lineament even though not told of it by VEPCO.

**D. Statements 16, 17, 18, 19, 20 and 21.** The next group of statements considered by the Licensing Board were contained either in the Final Safety Analysis Report (FSAR) for Units 1 and 2 (issued on January 3, 1973) or in a supplement to that document (issued on July 18, 1973). The Licensing Board found two of the six statements in this group to be materially false and exonerated VEPCO on the other four. Mr. Kornblith fully concurred in this disposition.

None of the parties to the appeals takes issue with the Board's ruling that statements 19 and 21, both found in the FSAR supplement, were true.[43] Con-

[43] Statement 19:

There is no zone requiring detailed investigation of the faulting or rock strata.

Statement 21:

A study of the recent land forms in the site area does not reveal any adverse features such as faulting, slides, areas of instability or brecciation that could have been caused by these shocks or from earlier earthquake shocks.

sequently, they need not be considered further in this opinion. We turn immediately to the four statements as to which an appellate challenge has been made to the Licensing Board's determinations.

1. Statement 17, appearing at page 2.5-6 of Volume 1 of the Unit 1 and 2 FSAR, makes, *inter alia,* two of the same representations that were contained in Statements 7 and 13: "[f]aulting of rock at the site is neither known nor is it suspected. Surface mapping, boring data, and the excavation for Units 1 and 2 all indicate continuity of strata." In Part IIIB of this opinion, pp. 378-381, *supra,* we found Statements 7 and 13 to be materially false to the extent that they negated any suspicion of site faulting. Nothing transpired in the 9-1/2 month interval between March 15, 1972 (when Statement 13 was made) and January 3, 1973 which calls for a different result on Statement 17. We therefore concur in the Licensing Board's determination that Statement 17 was also materially false.

2. We experience no greater difficulty in upholding the Licensing Board's finding that Statement 18 was both false and material. That statement, included in the July 1973 supplement to the FSAR for Units 1 and 2 (at p. 2.5-10), read:

> Faulting of rock strata at the site is not known. All available information tends to confirm the continuity of strata. The closest known fault is located 4.5 miles NW of the site, as evidenced by mine exposures near Mineral, Virginia.

It is stipulated that, at the time this representation was made, VEPCO was aware of the presence of a fault. Specifically, in April 1973, a resident Stone & Webster geologist had observed an apparent offset of a pegmatite vein along a chlorite seam in the Unit 3 excavation (S.F. 110). Nine days later, a second and similar apparent offset was observed (*Ibid.*). Following investigation, it was determined that the feature encompassing the offsets was a fault (S.F. 117). VEPCO so notified the staff on May 17, 1973 (S.F. 119).

Admitting the untruthfulness of Statement 18, VEPCO offers the explanation that the pages of the FSAR amendment embracing the statement were already in preparation when the fault was identified on May 14, 1973 and were not thereafter altered for the reason that "the investigation was in process and the staff had already been informed of the existence of the fault." This explanation may be pertinent on the question of the appropriate sanction. See p. 390, *infra.* But it has no bearing upon whether Statement 18 was false. Nor can VEPCO avoid a determination of falsity on the basis that at least some members of the staff were aware that the actual facts were other than presented in Statement 18. Commission personnel come and go and there is no reason to presume that *every* staff reader of the FSAR would have been aware of the recently discovered fault and, therefore, have understood Statement 18 as implicitly excluding that fault from its reach. This same consideration precludes VEPCO's additional argument that Statement 18 cannot be treated as material. VEPCO may well be right that "a false statement cannot be material if the

person to whom it is made knows it is false." But that proposition is of no aid to VEPCO if the FSAR might have reached the hands of staff members who did not know of the falsity of Statement 18.[44]

3. Statement 16, which also appeared in the July 1973 FSAR supplement (at p. D2.5.2-7), reported that "[b]orings drilled at the site indicate continuity of strata and inspection of soil and rock showed no adverse effects indicative of geologically recent or active faulting." The Licensing Board found that representation to be true. NRCI-75/9 at 529. Only the Coalition attacks that finding. It recognizes that the finding was grounded upon uncontroverted evidence that no discontinuities of strata had been disclosed by the borings in question (*Ibid.*). Nonetheless, the Coalition insists that, taken in context, Statement 16 would have been found "patently misleading" by a layman.

We have held, however, that whether a representation made to the staff is "false" for the purposes of Section 186 is not to be determined on the basis of what message the representation might impart to a layman. See pp. 359-360, *supra*. In any event, the specification of charges did not assert falsity on the ground now being assigned by the Coalition. Rather, Statement 16 was there alleged to be false for the sole reason that it "affirm[ed] that borings drilled at the site indicate continuity of strata when in fact there were borings indicating otherwise." VEPCO having successfully refuted that claim, the Licensing Board reached the only result open to it on Statement 16.

4. Statement 20 was contained in the January 1973 FSAR for Units 1 and 2 (at pp. 2.5-13/14) and read:

> The bedrock is competent, hard and crystalline metamorphic rock which is insoluble and free of any solution or collapse features * * *. No significant residual stress conditions are apparent in the bedrock. The site area is free of any known faulting. There are no predominant deformational features

[44] Our dissenting colleague agrees that Statement 18 was false but concludes that it was not material. See pp. 399-400, *infra*. He justifies this conclusion on the basis that the staff itself had failed to apprise the Licensing Board and the public of the discovery of the fault until August 1973. Although apparently unimpressed with the staff's proferred "excuse" (namely, that it had had the geology of the site and the fault under investigation during the May-August period), he nonetheless reasons that "the same excuse should apply to [VEPCO] since it too was continuing its investigation." We cannot join in this reasoning. Whether or not there is substance to the staff's explanation of why it failed to advise the Licensing Board more promptly of the discovery of the fault, that explanation has no bearing upon whether VEPCO's manifestly false representation in Statement 18 was material.

In this connection, we decline comment on the several criticisms of the staff to be found in Dr. Buck's opinion. The staff is not on trial in this proceeding; nor do the shortcomings, if any, in the performance of staff responsibilities serve perforce to relieve VEPCO of the consequences of its own conduct. We need add only that neither Statement 18 nor any other statement we have found to be materially false can be fairly said to have been induced by what the staff did or did not do.

present other than the normal situation of jointing associated with metamorphic rocks of this geologic age.

On the evidence before it, the Licensing Board determined that that statement did "not mislead or fail to make a full disclosure within its scope" and therefore did not contravene Section 186. NRCI-75/9 at 530-31.

We see no reason to upset this determination. Insofar as the first sentence is concerned, it is of no consequence whether, as the Coalition maintains, a layman might have thought the chlorite seam discovered in 1970 to be a "collapse feature." The undisputed evidence before the Board was that, to a geologist, the term "collapse feature" has reference to something entirely different (J. Ex. 69, at p. 5). With respect to the second sentence, the Coalition suggests that it was misleading because it did not disclose that VEPCO had attempted unsuccessfully to measure residual structural stress conditions. It appears, however, from the transcript of the seismic show cause proceeding (at p. 844) that the attempt did not take place until several months *after* Statement 20 was made.

Although it had urged below that no part of Statement 20 was false, the staff now contends, in agreement with the Coalition, that the third sentence should be held materially false because of the then known presence of faults at the dam site.[45] We reject that contention on the basis of what we concluded in our discussion of Statements 7 and 13, pp. 375-377, *supra;* namely, the failure to disclose the minor and ordinary shear faults at that location was not material.

Finally, the Coalition argues that even an expert would take the term "predominant deformational feature" to apply to the geological conditions obtaining at the North Anna site and, therefore, the fourth sentence of Statement 20 was false. The Licensing Board found otherwise. NRCI-75/9 at 531. Its finding is amply supported by the record. (J. Ex. 69, at p. 5).

**E. Statements 22, 23 and 24.** We consider collectively the three remaining statements—Nos. 22, 23 and 24. We can do so because we conclude that, for a common reason, the Licensing Board erred in holding them to be "material false statements." That reason is that none of the three qualifies as "statement" at all within the meaning of Section 186.

We need not repeat here our earlier discussion of the essential ingredients of a "statement"; it suffices to note the conclusion there reached that the term "connotes some affirmative representation." See p. 361, *supra*. In the instance of the three present alleged "statements," that ingredient is plainly missing. "Statement" 22 is accurately described by the Licensing Board as being the "[f]ailure to provide the AEC staff with a copy of" the so-called "Roper report," in actuality a collection of three written reports which had been prepared by a consultant retained by Dames & Moore in the latter part of 1973 to

[45] At the time Statement 20 was made, the fault referred to above in connection with Statement 17 had not been discovered.

make, *inter alia,* a regional geologic study of the Piedmont (S.F. 121; Tr. 601-04). "Statements" 23 and 24 were characterized by the Board, also correctly, as being "the [f]ailure to adduce evidence" at Licensing Board hearings[46] regarding adverse foundation conditions discovered in the Unit 1 excavation in February 1970 and the fault discovered on the site in 1973. NRCI–75/9 at 531-33.

These failures could conceivably, of course, have contributed to the falsity of some affirmative statements which VEPCO *did* make; once again, the non-disclosure of pertinent information can give a misleading, and therefore false, cast to what actually has been represented. But no such claim has been advanced, let alone substantiated, here. The specification of charges does not point to anything positively represented by VEPCO which was affected by either the non-disclosure of the Roper report or the failure to have adduced additional evidence at the hearings.

We take no pleasure in disposing of the "statements" on this basis. As Mr. Kornblith emphasized in his discussion of "Statement" 24, an applicant which, in violation of requirements of statute or regulation, has withheld information of potentially vital safety significance from the staff or a licensing board has committed a most serious offense. NRCI-75/9 at 558.[47] Assuming, *without deciding,* that there existed a reasonable foundation for believing that such misconduct had occurred here, VEPCO should have been called upon to respond and, if found culpable, to suffer the appropriate penalty. To this end, the Coalition and the staff could have elected to charge VEPCO, at least in the alternative, with a failure to comply with applicable reporting requirements. As earlier noted, Section 186 reaches not only "material false statements" but, as well, the failure to observe the terms and provisions of the Atomic Energy Act or any regulation promulgated thereunder. The Coalition, however, for reasons sufficient to itself, elected to draw specifications designed to "set this case up as a test" of whether the simple failure to file a report unrelated to any statement is, nonetheless, a "material false statement" within the meaning of Section 186 (App. Tr. 122-23). Although by no means compelled to do so, the staff elected to ride along with the Coalition's specifications. It, too, sought neither to plead nor to prove that VEPCO failed to meet Commission reporting requirements.[48]

---

[46] Specifically, the hearing conducted (1) on November 23-25, 1970 in connection with the construction permit application for Units 1 and 2; and (2) on May 7-10, 1973 in connection with the construction permit application for Units 3 and 4.

[47] Indeed, Mr. Kornblith would have assessed a total penalty of $75,000 on "Statement 24" (which he regarded to involve continuing violations).

[48] We reiterate (see p. 363, *supra*) that what we have here is not merely a matter of the wrong label having been used in the specification of charges. It is also a matter of proof. To establish a reporting requirement violation, the source of the asserted requirement must be alleged and proven. This was not done in connection with either the Roper report or the 1970 and 1973 hearings.

It is solely because those parties chose to pursue that route that, as a matter of law, VEPCO cannot be held accountable in this proceeding for derelictions of the variety alleged in "Statements" 22, 23 and 24.[49]

In Sum, we determine that four of the statements in question–7, 13, 17 and 18–are "material false statements" within the meaning of Section 186. We now move in Part IV of this opinion to consider the appropriate sanction.

## IV

A. We need not pause long to consider whether the revocation or suspension of VEPCO's construction permits might be in order. Given the facts that (1) the number of established material false statements has now been reduced to four; (2) three of those statements were to the precise same effect (*i.e.*, "nor is [faulting] suspected"); and (3) it was neither claimed nor shown that VEPCO intended to deceive the Commission regarding the geologic conditions of the North Anna site, such a drastic sanction would be inappropriate. None of the parties contends otherwise. Indeed, despite its insistence that 17 material false statements had been proved, and its criticism of some of the reasons given by the Licensing Board for not decreeing revocation or suspension, with commendable candor the Coalition concedes in its brief that "a strong case can be made for non-revocation on this record."

B. At the same time, however, we think that the imposition of monetary penalties was proper. VEPCO appears to assert that Section 186 has been interpreted in this case in a manner both novel and unforseeable; accordingly, it urges, the teachings of *Chevron Oil Co.* v. *Huson*, 404 U.S. 97 (1971), require that the Section as so interpreted be given prospective application only. We disagree. In our judgement, there was never reason for substantial doubt on VEPCO's part that Section 186 proscribes the making of statements in documents filed with the Commission which, whether designed to have that effect or not, misrepresented material facts.

Nor do we subscribe to VEPCO's seeming belief that, because of the absence of "any intent to deceive [or] any danger to the public," the material false statements were of such little consequence that a monetary penalty should not have been assessed. The providing to the staff of erroneous or misleading information bearing upon a question of reactor safety is always a grave matter. The potential for serious mischief is just as great whether the applicant or licensee

[49] We stress again that we intimate no opinion whether, in actuality, VEPCO's failure to present additional evidence at the 1970 and 1973 hearings or to submit the Roper report was in violation of an established reporting requirement.

acted in bad faith or was simply negligent. The public interest to be served in making this crystal clear is of itself a sufficient reason not to allow VEPCO to leave this proceeding with, as it has suggested, simply a notice of violation.

The $5,000 penalty imposed by the Board on each of Statements 7, 13 and 17 seems reasonable, and therefore those assessments are not being disturbed. In the case of Statement 18, however, we are reducing the penalty from $5,000 to $2,500. As has been seen, VEPCO had promptly reported to the staff the discovery of the fault reflected by the offsets in the pegmatite vein. See p. 385, *supra*. Although this disclosure did not excuse the erroneous representation two months later that no faulting of rock strata at the site was known, it is a mitigating circumstance insofar as the magnitude of the penalty is concerned.

C. What this leaves for decision is whether the Licensing Board was justified (1) in going beyond the assessment of monetary sanctions and imposing three conditions on the North Anna construction permits, and (2) in not placing still further conditions on those permits which had been suggested by the Coalition.[50]

1. We do not accept VEPCO's argument that the Licensing Board lacked the power to impose permit conditions. True, as VEPCO stresses, the Commission's May 28, 1974 order announced that the purpose of the proceeding was to determine whether the North Anna construction permits should be suspended or revoked. See pp. 352-353, *supra*. But it does not follow that the Licensing Board could not select some *lesser* form of sanction if it deemed permit suspension or revocation to be too drastic. VEPCO tacitly concedes as much by its explicit acknowledgement of the authority of the Licensing Board to assess monetary penalties in lieu of adverse action against the permits. In our view, the Commission order is to be read as implicitly empowering the Board to resort to any remedy permitted by law and thought to be appropriate so long as of no greater severity than the one specifically identified therein. In this regard, none of the three conditions in issue is claimed to be unlawful.

---

[50] VEPCO has also raised two other questions, both of which can be disposed of summarily. First, we are told that the Licensing Board exceeded its jurisdiction in stating (NRCI-75/9 at 538) that the civil penalties were to be paid out of VEPCO's net profits and not be considered by the company as an operating expense; such a matter, VEPCO insists, is for the Virginia State Corporation Commission to decide. Counsel for Virginia assured us at oral argument, however, that the Commonwealth did not regard the statement as impinging upon her regulatory authority and further informed us that the Corporation Commission had already taken the position that the civil penalties would *not* be treated as a business expense (App. Tr. 157). Second, we reject VEPCO's challenge, similarly on jurisdictional grounds alone, to the Board's "request" that the staff evaluate VEPCO's performance in depth to determine whether "additional monitoring of [VEPCO] is needed beyond that employed in the routine follow-ups to violations and infractions." NRCI-75/9 at 539. We do not see that request as being so far removed from the scope of the proceeding as to bring into play what was said by us in *Arkansas Power & Light Co.* (Arkansas Nuclear One Unit 2), ALAB-94, 6 AEC 25, 31 (1973).

2. The Board below imposed the conditions because "a material false statement goes to the heart of the regulatory process" and it thought that "other sanctions [in addition to civil penalties] are needed to prevent recurrence of what appears to be an undue number of infractions and a high rate of civil violations." In this connection, it pointed out that VEPCO had previously received two civil monetary penalties, representing 25% of the total number of eight levied against components of the nuclear power industry. NRCI-75/9 at 538. It appears that the earlier of these penalties, imposed in June 1973, resulted from a determination by the Commission's staff of a lack of full compliance with certain (1) technical specifications governing the operation of VEPCO's Surry nuclear facility; and (2) quality assurance criteria (Ex.NX-1). All that the record discloses respecting the second penalty is that it was assessed by the staff in 1975 on a finding of "violations in connection with the Surry security program" (Tr. 715).

a. The first of the three conditions requires either the President or the Chairman of the Board of Directors of VEPCO to issue a statement of policy expressing the Company's strong commitment to the full discharge of its responsibility to comply with the provisions of the Atomic Energy Act and the Commission's regulations, "including but not limited to an expression showing an understanding of the need for independent evaluation by the Nuclear Regulatory Staff on all material safety matters affecting the construction and operation of a nuclear reactor." NRCI-75/9 at 538-39. The Licensing Board apparently thought that nothing short of such "a positive statement" from an official at the highest levels of VEPCO would suffice to insure that lower ranking officials and employees clearly understood the extent of the Company's "obligations for the public health and safety." *Id.* at 538. We disagree.

It is, of course, the duty of VEPCO's management, as it is of the management of any business concern, to take whatever measures may be necessary to obtain employee obedience to all regulatory requirements. But it is less certain that the public affirmation of a commitment to obey the law which has been decreed by the Licensing Board is such a measure. There are many means by which VEPCO's senior managers might impress upon their subordinates the importance which the Company attaches to compliance with the Atomic Energy Act and the regulations of this Commission; and the one selected by the Board below may well not be the most effective one in this instance. In the totality of circumstances, it seems to us that it is best left to VEPCO to develop, on the basis of its own evaluation of the situation, those procedures which should be taken to achieve the proper attitudinal climate among its employees.

Accordingly, we strike the first condition. Our doing so, however, should not be taken as minimizing the importance of a total commitment on the part of all those in the employ of VEPCO and its contractors to the observance of regulatory requirements. The public interest demands no less.

b. The second condition calls upon VEPCO "to prepare a management evaluation and analysis of its entire current organizational structure from the point of view of its effectiveness in implementing the statement of policy" required by the now-deleted first condition. NRCI-75/9 at 539. The Board's articulated purpose was to insure that VEPCO's "internal management systems, including its quality assurance program, have the management characteristics needed to provide the necessary confidence in the ability of [VEPCO] to implement the statement of policy." *Ibid.*

We strike this condition as well. There is nothing in the circumstances attendant to the four established Section 186 violations here which suggests to us some possible deficiency in VEPCO's "internal management system" which might bring into question the company's ability to fulfill regulatory responsibilities. Insofar as VEPCO's quality assurance program is concerned, that program was not in issue in this proceeding and, for all we know, any deficiencies which might have previously existed have now been rectified. If not, it is the staff's duty to take appropriate action. Indeed, as we understand the dimensions of its role in the regulatory process, the staff can always step in and take necessary remedial action should a question arise in its mind as to whether the organizational structure of a regulated utility might be deficient in some significant respect.

c. The third condition would have VEPCO analyze and report on its contract policy with those of its contractors who are involved "in the performance of any work or service pursuant to any application, permit, or license pending before, or issued by, the Nuclear Regulatory Commission." The Board saw a need for this condition to assure that the contractors are "committed and clear as to their obligations and responsibilities" under the Atomic Energy Act and the Commission's regulations. NRCI-75/9 at 539. Although the warrant for this condition is not free from all doubt, we are allowing it to stand. The record as a whole suggests to us that there may have been some uncertainty on the part of Dames & Moore and Stone & Webster as to the reach of their own obligations and responsibilities in the area of regulatory compliance. We see no harm, and possibly some benefit, in calling upon VEPCO to focus upon that matter in the manner provided in the third condition.

3. We have reviewed with care the various other conditions which the Coalition thought should be imposed upon the North Anna construction permits. It would unduly further lengthen an already prolix opinion to discuss them individually. We content ourselves with the observation that, even if one or more might have been warranted had we accepted the Coalition's expansive view of the ambit of VEPCO's culpability, none is in order given the findings which we have made in Part III above.

## V

In accordance with the foregoing, the September 10, 1975 initial decision is *affirmed* in part, *modified* in part and *reversed* in part as follows:

1. The determination of the Licensing Board that Statements 7, 13, 17 and 18 *were* material false statements within the meaning and for the purpose of Section 186 of the Atomic Energy Act is *affirmed.*

2. The determination of the Licensing Board that Statements 1, 2, 4, 16, 19, 20 and 21 *were not* material false statements within the meaning and for the purpose of Section 186 of the Atomic Energy Act is also *affirmed.*

3. The determination of the Licensing Board that Statements 10, 11, 12, 14, 15, 22, 23 and 24 *were* material false statements within the meaning and for the purpose of Section 186 of the Atomic Energy Act is *reversed.*

4. With regard to remedies:

a. The determination of the Licensing Board that the construction permits for the North Anna facility should not be revoked or suspended is *affirmed.*

b. The determination of the Licensing Board that, pursuant to Section 234 of the Atomic Energy Act, VEPCO should be assessed civil penalties in the total amount of *$60,000* is *modified.* The total assessment is reduced to *$17,500,* representing $5,000 for each of Statements 7, 13 and 17 and $2,500 for Statement 18.

c. The determination of the Licensing Board that three conditions should be imposed upon the construction permits for the North Anna Station is *modified* by the deletion of conditions (a) and (b). Condition (c) is to remain in effect.

The effectiveness of the remedial provisions of the Licensing Board's initial decision, as thus modified, is further stayed for the period of 30 days from the date of the decision of this Board.[51]

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

[51] On VEPCO's unopposed motion, by order of September 26, 1975, the Licensing Board stayed the effectiveness of those provisions pending our further order.

**Dr. Buck, dissenting in part:**

## A. THE MERITS

While I am in agreement with the conculsions reached by my colleagues that Statements 1, 2, 4, 10, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, and 24 are not material false statements, I must respectfully but strongly disagree with their decision that Statements 7, 13, 17 and 18 are materially false.[1]

### 1. Discussion of Statements 7, 13 and 17

My colleagues find Statements 7, 13 and 17 to be materially false because each contained the representation that "faulting of rock at the site is neither known nor is it suspected." The bases given for their conclusion are: (1) this part of the statement was misleading because the use of the present tense could be interpreted to indicate that the possibility of a fault had *never* been seriously suspected and (2) the statement failed to reflect that a Virginia Division of Mineral Resources (VDMR) geologist did, to the knowledge of a Dames and Moore (D&M) geologist, "suspect" a fault at North Anna during the period covered by these statements.[2] See pp. 378-381, *supra*. In my opinion, these bases are not supported by the evidence, but rather are directly contradicted by the record.

#### a. Discussion of the Dames & Moore Report

Since my colleagues agree that statements 13 and 17 are merely repetitions of Statement 7 with no intervening change in facts (see pp. 381, 385, *supra*), I will consider only the events leading up to Statement 7.[3] This statement appeared in the third paragraph of section 2.4 (Geology) of the PSAR for Units 3 and 4. The first paragraph of that section states:

> Summarized in the following paragraphs are the principal results of the geology and foundation phase of the environmental study. The study includes: a geological investigation of the site and the surrounding area; a review of pertinent geologic literature; interviews with officials of government agencies and private organizations; information acquired from the

[1] Pages 377-380, 385-386, *supra*.

[2] In essence the majority opinion concerning these statements rests on an assumption that the Dames & Moore geologists did, at one time, suspect a fault and failed to alert the staff to this suspicion. The staff therefore was prevented from making its own investigation. As will be seen later, I disagree.

[3] While different regulations governed the submission of Statements 7, 13 and 17, that circumstance would bear on the materiality and not on the falsity of the Statements. As hereinafter indicated, I do not regard these Statements as being false.

excavations for Units 1 and 2 and a foundation test boring and laboratory testing program. The details of this study are described in Appendix B.

It is therefore important to review Appendix B (the 1971 D&M report) to understand the basis for the statement in Paragraph 3 of Section 2.4 which said in full:[4]

> The closet known fault is located near Mineral, Virginia, 7.5 miles WSW of the site. Faulting of rock at the site is neither known nor is it suspected. Surface mapping, boring data and the excavation for Units 1 and 2 indicate continuity of strata.

A fair treatment of a logically developed technical report such as that given in Appendix B to the PSAR requires that the report be read and judged as a whole and not on the basis of certain isolated statements. I note, first of all, that the transmittal letter for this report (from Dames & Moore to VEPCO) is included in Appendix B. This letter states that bi-weekly progress reports were submitted to VEPCO and, while they were not included as part of Appendix B, the regulatory staff was clearly on notice that such reports were available.

Part I of the report includes a description of the field explorations and laboratory tests performed in the investigations. It should be noted that the field explorations included, *inter alia,* geological reconnaissance of the site and surrounding area, borings, test pits, seismic refraction surveys, and geophysical measurements. Plates showing the test boring results are included.

Part II covers the geology, hydrology and engineering seismology of the site. The initial sections of Part II of the report cover the regional geology and point out that the nearest major faults to the site are the Triassic bordering faults of the Culpeper basin some 20 miles west-northwest of the site. The area geology studies (which include area magnetic mapping) indicate that the site is free from faulting but, the report states: "[t]o *confirm* this fact the immediate foundation area was investigated in additional detail" (emphasis supplied). The remainder of the geology report is devoted to the detailed site studies.

The D&M discussion of its site investigations reveals that during the originally planned routine borings chlorite layers up to one foot thick were found. Some of these correlated with the chlorite layers encountered in the excavations for Units 1 and 2. In one boring (#630) a one inch healed offset was found in the material at a depth of 52 feet. Optical analyses were performed on the sample. Consideration of the evidence led the D&M investigators to conclude that these features were not of fault origin. The report also shows that the additional borings which were made to establish the continuity of the horneblende gneiss zones on the site provided additional knowledge of the geology of the area

[4] The 1971 Dames & Moore (D&M) report was separately admitted into evidence as J. Ex. 18, (see p. 368, *supra*).

surrounding boring 630. It is clearly indicated that the D&M geologists believed that the site studies did indeed confirm the results of the area geology studies, *i.e.*, no faults on the site.

However, it is evident from the report that the offset in the so-called "altered zone" and the chlorite seams observed during the site studies did suggest to the D&M investigators (as they would to most geologists trained in this area) the *possibility* that these could be of fault origin. The additional investigations and tests were specifically designed to determine whether such zones *were* or *were not* of fault origin. The chlorite seams and the offset were duly noted in the D&M report as were the results of the additional studies undertaken to resolve the questions raised by these features. The tests made to support the conclusions reported in the D&M 1970 and 1971 reports were specifically designed to determine the origin of the chlorite. These tests showed that the chlorite seams were of biotite origin. In the deposition of Mr. R. J. Henry, it is emphasized that he and other D&M geologists recognized that chlorite seams can be of fault origin but they can also be formed from biotite intrusions which weather to chlorite. (J. Ex. 39, at pp. 19-25). The statements made by Mr. Henry were confirmed in the depositions of Mr. W. F. Swiger (J. Ex. 25, at pp. 14-16, 21, 30) and of Mr. J. Briedis (J. Ex. 29, at p. 76). Of particular note is the fact that these statements were not contravened by an other expert for either the USGS or the staff.

For these reasons, I must conclude that the D&M geologists on the basis of their technical knowledge neither did suspect nor had suspected faulting at the site as of the date of their August 1971 report to VEPCO.

In this connection I must disagree with my colleagues' statement (p. 379, *supra*), that "the omission of any reference to the fact that both Stone & Webster and Dames & Moore had seriously investigated the possibility of faulting conveyed an erroneous impression respecting the import of the representation that 'faulting of the rock at the site is [not] suspected.'" They say that this implies that no fault was ever suspected. This, in turn, implies a deliberate intent to deceive which the record I have outlined above disproves.

The analogy used by my colleagues to emphasize the supposed deceit (p. 380, *supra*) is clearly faulty. No insurance company worth its salt would rely on a layman's diagnosis of his own medical problems. In this case a more appropriate analogy would be the situation of a dermatologist who, while examining a patient, noticed a small growth which gave every indication of being a garden variety wart. However, it is common knowledge among dermatologists that such a growth is sometimes malignant so, being a prudent practitioner, the dermatologist has biopsy tests performed and is thereby able to confirm his original judgment that in this instance the growth is non-malignant. He thus would report to the patient, "no malignancy is suspected."

My colleagues in their footnote 41 refer to the above analogy as "inapposite" because, they say, "[w]e are not dealing here with the geologic

equivalent of a 'garden variety wart.'" I disagree. All of the geology experts in this proceeding agree that chlorite seams are common in the Piedmont province (just as warts are common on humans). They all agree that such seams may be of fault origin (just as some warts may be cancerous). (The plain meaning of "may" here is that "there is a possibility" that some chlorite seams are of fault origin). With professional prudence similar to that exhibited by the dermatologist with the wart, the D&M geologists, while not believing that the offset chlorite seam was of fault origin, ran tests to confirm their belief *and they reported them to the staff.* (J. Ex. 18 - D&M environmental report p. IIA-16).

**b. Opinions of Other Experts**

My colleagues, however, also base their conclusion that Statements 7, 13 and 17 were materially false on the stipulation of fact 81 (S.F.81) which states that Mr. T. M. Gathright, a geologist with the Virginia Division of Mineral Resources (VDMR) had told a D&M geologist, Mr. C. R. Livingston, that the chlorite zones in some gneiss cores from the North Anna project "*may* be of fault origin." [Emphasis added]. This statement was made during a visit by Mr. Livingston to the VDMR on July 13, 1971[5] and says nothing more than what has been said by D&M geologists Henry, Briedis and Swiger, that chlorite zones can sometimes be of fault origin. This common knowledge was the reason for the investigation and the tests which were made and reported in the D&M report.

Mr. Livingston stated in an interview with an AEC staff Regulatory Operations investigator on February 6, 1974 that in 1971, as a D&M employee, he had been asked to make a general survey of sources of geological knowledge of the area to determine what features might have a bearing "on the site selected for North Anna Units 3 and 4" (J. Ex. 40, at p. 21). On July 13, 1971 in the VDMR interview log (this is one of several VDMR interview logs in Exhibit L of J. Ex. 40), Mr. Gathright stated in full:

> Subject and Remarks:
> Request for geologic information pertaining to the North Anna Project area. Mr. Livingston, who is Project Engineer for Dames & Moore was shown our recent publications and Library references on Louisa County. He showed us some gneiss cores recently taken from the project area and asked our opinion of the origin of chlorite zones in these cores and in excavation for reactor site.

[5]The fact that interviews had been held with Mr. Gathright and other VDMR geologists in both 1970 and 1971 is noted in the references to Sec. II A, of the D&M environmental report (J. Ex. 18). As noted previously, this report was an Appendix to the PSAR in which the allegedly false statement was made.

No claim is made in this record that Mr. Gathright indicated that he *suspected* that the chlorite zones in cores shown to him were of fault origin. In fact, in an interview with an AEC staff investigator on February 4, 1974, Mr. Gathright is reported to have stated that, as he recalled, "he had had no more association with the site until he visited it again in October, 1973, when he noted some displacement along some chlorite zones. He said the zones appeared to be metamorphosed rock and *it was not clear to him even then* that there was a faulting." (J. Ex. 40, at p. 17, emphasis added). This certainly gives no indication that he suspected in 1971 that the cores he was shown indicated faulting. Once again, to emphasize the point, it appears that what has been provided in the record by S.F. 81 is no more than Mr. Gathright's observation of common knowledge among geologists that chlorite seams can sometimes be of fault origin, a possibility which, in this particular case, was ruled out by subsequent investigations.

In footnote 38, my colleagues attempt to counter my arguments concerning Mr. Gathright's beliefs. They have used their own emphasis in the Gathright quote rather than that used by me. I believe my emphasis must be considered in evaluating the intent and meaning of the Gathright statement. A staff investigator reported that Mr. Gathright visited the site in 1973, saw the new evidence of a fault and then said "the zone appeared to be metamorphosed rock and it *was not clear to* [him] *even then* that there was a faulting" (emphasis added). This has only one clear meaning–he hadn't suspected a fault before and he still didn't suspect a faulting. My colleagues suggest no other interpretation.

In the same footnote my colleagues claim that if Mr. Gathright's 1971 statement "was intended to be nothing more than a generic observation regarding the possible fault origin of chlorite seams, it was VEPCO's obligation to bring out that fact at the trial." To the contrary, if the stipulation meant more than such a generic statement, the intervenors or the staff had the obligation to establish that Mr. Gathright's statement was intended to carry something more than the plain meaning of the word "may." That plain meaning is 'there is a possibility,' no more no less.

**c. The Staff Testimony**

Finally, I note that the NRC staff geologists (Dr. J. C. Stepp and Mr. A. T. Cardone) who testified in this case agreed that chlorite zones can be of fault origin (see cross examination Tr. 240 *et seq*). Mr. Cardone further stated that the boring logs made by D&M in 1971 were properly and completely submitted by attachment to the PSAR as part of its environmental report (Tr. 240). He further admitted that this report did indicate a consideration of faulting but that he felt it was a very shallow consideration (Tr. 242-243).

Dr. Stepp, on the other hand, with reference to both the 1970 and 1971 Dames & Moore reports stated (at Tr. 244):

In both instances what is being described here could be expectable in the type of geological environment at the North Anna site.

In the case of the small thrust faults, that you mentioned in your first question, these could be expectable as they were described in the PSAR and, therefore, when they were expected in this context by us their significance was somewhat apparent at the outset.

Similarly, the small shear that was mentioned in the boring 630 could be expectable as described in the PSAR. It would not necessarily alert us to a larger much more extensive zone of faulting that could have been represented by this chlorite seam.

To me this appears to be exactly the position of the Dames & Moore geologists during this time period.

For all of the above reasons I completely reject the claim that Statements 7, 13 and 17 are materially false. They are nothing more than a statement of a technical conclusion based on facts at hand at the time.

**d. Mr. Salzman's Remarks**

An additional note is necessary with regard to Statements 7, 13 and 17 because of Mr. Salzman's apparent concern (fn 36, *supra*) about the conclusion reached by Mr. Rosenthal and myself on the importance of the information given to Mr. Engleman.

In their depositions[6] Drs. Funkhouser, Goodwin and Clement agreed that, while they all believed the crack in the pit wall to be a fault,[7] they all recognized it to be old (on the order of 200 million years) and not likely to move again. Witnesses Goodwin and Clement also stated that their conversations with Mr. Engleman concerned only the rock bolting procedures being used to protect the workers in the pit. They did not ask Mr. Engleman if there was a geologist available. After they left the site they forgot about the incident, except to show pictures of the fault to their classes.

It is obvious that they did not give Mr. Engleman any advice concerning the effect of the fault on the reactor structure because they foresaw none.

**2. Discussion of Statement 18**

I agree with my colleagues that on this record Statement 18 is clearly false.

[6] Funkhouser Dep. pp. 51-52 (J. Ex. 34); Goodwin Dep. p. 39 (J. Ex. 35); Clement Dep. p. 27 (J. Ex. 36).

[7] In this connection I note that both my colleagues seem surprised that an engineer would not be fully familiar with the meaning of the word "fault": Webster's 3rd International Dictionary p. 829 lists six meanings for the word. Two of the definitions concern areas of engineering. The most general definition of fault is "a defect." The geological definition is the fifth one in the list. Is it surprising then that Mr. Engleman considered this crack in the earth a defect to be bolted up?

But I believe that to call the statement material in the circumstances of this case ignores reality.

The licensee had fully informed the staff of the likelihood of a fault at the site some two months before the issuance of the units 1 and 2 FSAR in which Statement 18 appeared. The licensee points out that in this period of time any staff member connected with the project, let alone those responsible for the geology review, would be well aware of a possible fault. Further, the licensee states, staff members would also recognize that, since an FSAR requires many months of preparation and writing, the statement in question, in all likelihood, was written before the new geological information was obtained. I agree with that analysis. The fact that the statement was not corrected before the issuance of the FSAR is unfortunate but immaterial.

However, it is almost beyond belief to me that the NRC staff is demanding punishment of the licensee for this statement when during the same period the staff was consciously and deliberately withholding the same information from the Licensing Board and the public. The staff did not inform the Licensing Board until August of 1973 of the information it had received in May. The staff's ecxuse for this—that it had delayed reporting to the Board because it was investigating the geology of the site and the licensee's evidence on the fault—completely ignores the fact that the Licensing Board was preparing its initial decision. It would appear that the same excuse should apply to the licensee since it too was continuing its investigation.[8]

I find Statement 18 to be false on its face but not material.

[8]The Appeal Board in the *McGuire* proceeding (*Duke Power Co.* (Wm. B. McGuire Nuclear Station, Units 1 and 2), ALAB-143, 6 AEC 623, 625-6, September 6, 1973) expressed its disapproval of the continuing practice by the staff and other parties of withholding pertinent information from the licensing and appeal boards:

> In all future proceedings, parties must inform the presiding board and other parties of new information which is relevant and material to the matters being adjudicated.
>
> To avoid any misunderstanding, we do not mean that necessary administrative actions by the regulatory staff should not go on while a proceeding is being adjudicated (see 10 CFR 2.717 (b)). But this does not mean that the staff or applicant can be permitted to leave the presiding body and the other parties to the proceeding in the dark about any change which is relevant and material to the adjudication.* Changes may take place but they must be disclosed.
>
> If the presiding board and other parties are not informed in a timely manner of such changes, the inescapable result will be that reasoned decision-making would suffer. Indeed, the adjudication could become meaningless, for adjudicatory boards would be passing upon evidence which would not accurately reflect existing facts. The disclosure requirement we impose is not the product of any overly procedural formalism on our part—it goes to the very heart of the adjudicatory process. Its sacrifice for the sake of expediency cannot be justified and will not be tolerated.
>
> *Footnote omitted.

*McGuire* postdated Statement 18, but apparently the staff would hold the licensee *retroactively* to the reporting standards we enunciated therein.

## B. REMEDIES

On the basis of my dissent, there is, of course, no reason to consider monetary penalties. If, however, the majority opinion should prevail on the merits of Statements 7, 13, 17 and 18, I disagree with the proposed penalties. As both the majority opinion and my dissent have noted, Statements 7, 13 and 17 are identical in terms but were issued at different times over a two year period. My colleagues agree that there was no change in the basic facts involved during that period of time. On this basis, I would treat all three statements as one item. Since the error here, even by the staff's own statement, is merely one of writing a report which somehow failed to motivate the staff (Tr. 218-19), I would levy a penalty of not more than $1000 for the item.[9] My further comments in Section C *infra* will explain this more fully.

With regard to Statement 18, I believe it is obvious from my opinion on the merits that if this statement is considered as a material false statement it can be done so only as a technical violation. A fine of $1,000 would serve to notify VEPCO and other utilities to keep their publications up to date.

Again if the majority view prevails and some remedies are required, I would agree fully with my colleagues that the first two conditions placed on the licensee by the Licensing Board should be eliminated and the third condition should be retained.

This third condition, I believe, will serve to alert the licensee in this case, and other utilities as well, that reporting requirements unfortunately do continue to change and this requires close coordination and understanding between the utilities and their contractors.

## C. SOME FURTHER COMMENTS

I cannot in good conscience allow this decision to issue without expressing my strong opinion that this case would never have arisen if the Commission's regulations and guidelines for reporting geologic and seismic studies had been properly written and administered.[10] We discussed the problems of the 1966

[9] The penalties that I suggest here are selected to conform with those that the staff has imposed on other parties for similar violations.

[10] My colleagues state that they decline comment on my criticisms of the staff outlined herein. They point out, and I agree, that the staff is not on trial. But I must remind them that, as the Supreme Court has pointed out, the Atomic Energy Act "clearly contemplates that the Commission shall by regulation set forth what the public safety requires as a prerequisite to the issuance of any license or permit under the Act." *Power Reactor Development Co.* v. *Electrical Union*, 367 U.S. 396, 404 (1961).

My comments are intended to show why I believe that in the 1966-73 period neither the Commission's regulations nor the staff's guidelines clearly stated what was expected of the applicant or licensee with regard to the depth of investigation or reporting of geologic and seismic matters.

regulations and guidelines at pp. 367-368, *supra*. We noted there that in our view the staff in 1969 "was clearly minimizing the importance of detailed geological information except for unusal situations." This attitude did not change until the proposed Appendix A to part 100 was issued in November 1971. Furthermore, until 1973, the Commission's regulations still contained the statement "[n]o facility should be located closer than one-fourth mile from the surface location of a *known active* earthquake fault"[11] (emphasis added)—a situation hardly to be compared with a one inch displacement in a metamorphosed chlorite seam which VEPCO carefully reported. In view of the continuing changes in the Commission's regulations and staff's guidelines, and the intensive review and discussion on seismic criteria which took place during the 1969-1973 period,[12] the discussion by the staff witness on the reporting requirements can at best be described as inconsistent and incomplete (Tr. 718-59).

It must also be noted that, while reporting requirements were changed frequently in the 1969-1973 period, no statement is made in any of the new guidelines as to whether they were to apply to reports already made to the staff. For example, if a September 1971 report of geological investigations did not meet a new November 1971 guideline, was the report to be updated? If so, in what time period? No such requirements were laid down by the AEC.

The same staff witness, referred to above, claimed that he *felt* that the *intent* of the AEC reporting requirements for geology was clear but that judgments had to be made by the licensee. He further admitted that in all probability all geologists would not agree on such technical judgments (Tr. 750-754). Finally, he stated that in such matters (*i.e.*, highly technical geological judgments) utility managements should not rely on the judgment of their geologists because "they may have a narrow view of the entire picture." Rather, he said, "[m]anagement should apply its business judgment." As the staff witness makes clear, that judgment, in his opinion, becomes right or wrong only after being reviewed by the staff (Tr. 718-759). Such indefinite procedures leave the way open for arbitrary decisions by the regulatory body and do not in my opinion satisfy the requirements of the Atomic Energy Act.

The record of these proceedings makes it obvious that during the 1969-1973 period, the AEC staff, unfortunately, was just not interested in the geology and seismology of the North Anna area. It did not follow up in any way on:

(1) VEPCO's reports of shear faults at the site.

(2) VEPCO's reports of offsets and chlorite seams at the excavation site.

(3) The USGS reports of shear zones in the area.

---

[11] 10 CFR 100.10(c)(1)(1973 ed).

[12] See testimony of H. Baltz (USGS) during the seismic proceedings, (Tr. 1853-1856). See also Statement of Considerations to proposed Appendix A of 10 CFR 100.36 FR 22601 (Nov. 25, 1971).

(4) The USGS request to have VEPCO further investigate Neuschel's lineament.

(5) A staff inspector's report of rock slides in the site excavation.

Finally, no staff geologist visited the North Anna site between 1969 and 1973.

While the staff may have had considerable justification for its assumption that the geology situation at North Anna was not a major problem, it should not now claim that the only reason for its lack of concern was the licensee's failure to provide them with complete information. In my opinion, VEPCO with its contractors made an adequate investigation of the North Anna site geology, and they made every effort to meet what they sincerely believed to be the intent of the Commission's regulations in the area. It seems to me that in this "Regulatory Rumba" it is the staff which has missed the steps and VEPCO which has suffered the broken toes.

UNITED STATES OF AMERICA ALAB-325
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of Docket Nos. 50-338
50-339

VIRGINIA ELECTRIC AND POWER COMPANY

(North Anna Station, Units 1 and 2)

The Appeal Board affirms on the opinions of the Licensing Board the latter's decision concerning the routing of certain high voltage transmission lines.

**Mr. Michael W. Maupin,** Richmond, Virginia (**Messrs. James M. Christman,** Richmond, Virginia, and **Randolph W. Church, Jr.,** Fairfax, Virginia, with him on the briefs), for the applicant Virginia Electric and Power Company, *appellee.*

**Mr. Clarence T. Kipps, Jr.,** Washington, D.C., for intervenor Culpeper League for Environmental Protection, *appellant.*

**Mr. John T. Schell,** Arlington, Virginia, for intervenor Fauquier League for Environmental Protection, *appellant.*

**Mr. Stuart A. Treby** (**Mr. William Massar** with him on the brief) for the Nuclear Regulatory Commission Staff.

## DECISION

## April 16, 1976

This appeal involves the routing of high voltage transmission lines from the Virginia Electric and Power Company's North Anna Nuclear Power Station in Louisa County, Virginia, north to a terminus in Morrisville, Virginia. The Culpeper and the Fauquier Leagues for Environmental Protection intervened to protest the route Vepco selected, which passes through those two Virginia counties. The Licensing Board sanctioned Vepco's choice of the route, which has

also received the approval of the State Corporation Commission of Virginia. LBP-75-70, NRCI-75/12, 879 (December 5, 1975), as modified, LBP-76-1, NRCI-76-1, 37 (January 6, 1976). The intervenors appeal.

In substance, intervenors contend that Vepco should have been directed to place its lines along alternate routes which avoid the areas of Fauquier and Culpeper counties in which the Leagues' members reside or own property, and that the failure to require Vepco to do so violates the National Environmental Policy Act of 1969, 42 U.S.C. §4321 *et seq.* Each of their arguments was considered and found wanting by the Licensing Board, which explained its reasons for rejecting them in a carefully considered and fully detailed opinion. After receiving a full briefing and hearing oral argument on intervenors' claims, and upon an independent review of the record, we find ourselves in agreement with the Board below. Accordingly, we *affirm* the decision on the opinion of the Licensing Board.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-326

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of

Docket No. 50-537

PROJECT MANAGEMENT CORPORATION
TENNESSEE VALLEY AUTHORITY

(Clinch River Breeder Reactor Plant)

The Appeal Board denies the NRC staff's petition for a directed certification under 10 C F R 2.718(i) of that portion of the Licensing Board's April 6, 1976 order (LBP-76-14) admitting certain of intervenor's contentions.

RULES OF PRACTICE: CERTIFICATION

Where a licensing board ruling admitting a contention is not clearly on a "collision course" with governing legal principles, the Appeal Board may decline to direct the certification of the correctness of that ruling. *Cf. Ecology Action* v. *A.E.C.*, 492 F. 2d 998, 1001-02 (2d Cir. 1974).

**Mr. Geoffrey P. Gitner** for the Nuclear Regulatory Commission staff.

## MEMORANDUM AND ORDER

### April 19, 1976

The staff has petitioned for a directed certification under 10 CFR 2.718(i) of so much of the Licensing Board's April 6, 1976 special prehearing conference memorandum and order as admits into this proceeding Contentions 10 and 11 of the intervenor Natural Resources Defense Council (NRDC). LBP-76-14, NRCI-76/4 430.[1] We deny the petition.

[1] As appears from the Licensing Board's order, Contentions 10 and 11 bring into question the adequacy of the Final Environmental Statement prepared by the Energy Research and Development Administration with respect to the liquid metal fast breeder reactor program (ERDA-1535). The staff unsuccessfully urged below that the Licensing Board lacked jurisdiction to entertain these contentions. It apparently would renew that claim before us except as to Contention 10(g), which is addressed to the sufficiency of the ERDA review of alternative sites for the Clinch River Breeder Reactor Plant. The staff explicitly states that it is not challenging the admission as an issue of that limited portion of Contention 10.

We are told that the effect of the Licensing Board's action will be to extend the length of the evidentiary hearing as well as to impose certain additional burdens upon the staff. But this potential is present to a greater or lesser degree whenever a licensing board accepts over objection an intervenor's contention of relatively wide scope. This Board has not the duty, the resources or the inclination to commence a general practice of arbitrating at the threshold disputes over what are cognizable contentions—either under Section 2.718(i) procedures or otherwise. No good reason appears why an exception should be made in this instance. Without passing ultimate judgment on the correctness of the Licensing Board's views on the admissibility of the two contentions here involved, this much seems clear: in light of the teachings of the recent decision of the District of Columbia Circuit in *Henry* v. *F.P.C.*, 513 F.2d 395, 405-07 (1975), it can scarcely be said that the Licensing Board "is steering what is bound to be a collision course" with governing legal principles. *Cf. Ecology Action* v. *A.E.C.*, 492 F.2d 998, 1001-02 (2d Cir. 1974, per Friendly, Ch. J).[2] This being so, we can justifiably stay our hand. *Ibid.*

Petition for directed certification *denied.*

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

[2] It will be, of course, for the Licensing Board to determine *ab initio* both the breadth of the permissible inquiry under Contentions 10 and 11 and what the responsibliities of the staff may be in connection therewith. On this score, we would note only that it might turn out that the staff's petition has read too much into the Licensing Board's April 6 order.

UNITED STATES OF AMERICA ALAB-327
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

**In the Matter of** **Docket No. STN 50-482**

**KANSAS GAS AND ELECTRIC COMPANY**
**KANSAS CITY POWER AND LIGHT COMPANY**

**(Wolf Creek Nuclear Generating Station, Unit No. 1)**

Upon motion by applicants in construction permit proceeding for directed certification of a Licensing Board order denying their request for a protective order limiting disclosure of a fuel supply contract, the Appeal Board rules that: (1) the controversy is not moot by virtue of the completion of the evidentiary hearing of the issue to which the contract relates; (2) the question presented by the Licensing Board order is deserving of interlocutory appellate consideration; (3) the grounds on which the Licensing Board rested its denial of a protective order are insubstantial; (4) the applicants have misapprehended the standards governing a claim that certain information should be protected against public disclosure; and (5) in the totality of the circumstances, the applicants should be given an opportunity to demonstrate that, measured against the proper standards, their claim is meritorious.

Application for directed certification granted; certified issue remanded with instructions; interim protective order to remain in effect *pendente lite.*

RULES OF PRACTICE: APPELLATE REVIEW

An interlocutory discovery ruling denying a protective order must be reviewed immediately or not at all. While such a consideration does not necessarily require an appeal board to invoke its Section 2.718(i) certification authority, it may do so where the underlying issue appears to be of enough importance and the affected interests of the parties sufficiently great.

RULES OF PRACTICE: DISCOVERY

Neither 10 CFR §9.5(a)(4) nor 10 CFR §2.790 are directly concerned with

the discovery of information in the hands of a private party. Rather, both deal with access to records and documents contained in the files of the Commission itself.

RULES OF PRACTICE: PROTECTIVE ORDERS

One seeking to place restrictions upon the disclosure of information relevant to an issue in adjudication must show that, *inter alia*, not only is the information of a type customarily held in confidence by its originator, but also there is a rational basis for so treating it (*i.e.*, that the possessor of the information will suffer significant harm through its release).

**Mr. Jay E. Silberg**, Washington, D. C. (with whom **Mr. Gerald Charnoff** was on the briefs), for the applicants, Kansas Gas and Electric Company, *et al.*

**Mr. William H. Griffin**, Assistant Attorney General of Kansas, Topeka, Kansas (with whom **Messrs. Curt T. Schneider**, Attorney General, and **Michael B. Rees**, Assitant Attorney General, were on the brief), for the intervenor State of Kansas.

**Mr. Milton J. Grossman (Ms. Colleen K. Nissl** on the brief) for the Nuclear Regulatory Commission Staff.

## DECISION

## April 27, 1976

This is a pending construction permit proceeding involving Wolf Creek Nuclear Generating Station, Unit No. 1. Acting upon a stipulation entered into by the parties (which include intervenors State of Kansas and Mid-America Coalition for Energy Alternatives), the Licensing Board admitted to the proceeding, *inter alia*, certain issues relating to the costs which would be incurred in acquiring nuclear fuel for the facility.

In apparent aid of the preparation of their case on these fuel cost issues, the intervenors requested the applicants to furnish them with a certified copy of the nuclear fuel supply contract which the applicants had entered into with the Westinghouse Electric Corporation. The applicants reponded that they would furnish "certain nuclear fuel cost information which should satisfy the purposes of [that] request," provided that the intervenors first executed "a non-disclosure agreement * * * designed to protect the proprietary information of suppliers of nuclear fuel" for the Wolf Creek facility. This condition was not found acceptable by the intervenors and, accordingly, they moved the Licensing

Board for an order compelling the production of the Westinghouse fuel supply contract. The motion explicitly asserted that the "information contained in said contract is not secret, proprietary or confidential commercial."

In its answer to the motion, the applicants noted that the nuclear fuel contract itself contained a prohibition against disclosure of its contents without the prior written consent of Westinghouse. The Board was told that, in light of this proviso, disclosure had been confined to (1) a relatively small number of persons in the employ of either the applicants or the firm serving as their consultant in the negotiation of the contract;[1] (2) applicants' counsel; and (3), *in camera,* the Chairman, a Commissioner and one staff member of the Corporation Commission of Kansas in connection with a rate proceeding being conducted before that Commission which involved the Kansas Gas and Electric Company.[2] Moreover, dissemination of the contents of the contract within the Westinghouse organization itself is on a "need to know" basis.

Appended to the applicants' answer was the affidavit of Robert A. Wiesemann, a Westinghouse official. Mr. Wiesemann stated that his company deems information to be proprietary if, *e.g.*, "[i]t reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers." Fuel contracts, it was said, contain information of this type. Additionally, according to the affiant, "the information contained in a fuel contract is of such commercial or financial nature that it is customarily held in confidence by the originator and not customarily disclosed to the public."

Following the submission of briefs on several questions raised by the Licensing Board, that Board issued an order on January 9, 1976 in which it directed the disclosure to the intervenors of "all terms and conditions of the nuclear fuel supply contract related in anywise to the price or cost in such fuel supply contract," which disclosure was to be "without any restriction or restraint on the use of such price or cost data" by the intervenors. The basis assigned by the Board for rejecting the applicants' position that the contractual provisions should be protected against public disclosure was that:

> The Board attaches considerable weight to the necessity of actual cost information for the cost-benefit analysis required to be made under NEPA and the Commission's regulations. Cost means what the persons in the commercial field generally term prices or charges. These cost-benefit analyses are required to be publicly disclosed in the Final Environmental Statements.

[1] It was represented to the Board that that firm had "executed an appropriate non-disclosure agreement with Westinghouse."

[2] All of these individuals, except for the Corporation Commission staff member, were specifically identified by the applicants. It appears that the Corporation Commission rejected the request of one of the parties to its proceeding that the contract be publicly disclosed. It did so, however, without passing upon whether the contract was legally entitled to protection against such disclosure.

The Board finds it difficult to conceive of a valid cost-benefit analysis being based upon someone's estimate or guess at what the market price is, or might be, for the circumstances which are individually considered in a sales contract. The Board inclines to the view that there is a right-to-know by the public doctrine that is developing and can be extended to commercial contracts involving commodities of various kinds, whether it be drugs or nuclear fuel. There does not seem to be any magic character of one commodity over another. A restraint on public disclosure may violate any number of lawful measures, and agreements made in the course of interstate commerce to restrain or prohibit disclosure of commercial prices may violate the antitrust laws as well as infringe upon First Amendment rights.

Invoking 10 CFR 2.718(i) as construed in our *Seabrook* decision,[3] the applicants promptly moved us to direct the certification of the January 9 order to the extent that it declined to preclude the intervenors from making public disclosure of the contractual provisions. We were also asked to issue an interim protective order to obviate the controversy becoming moot pending our consideration and disposition of the motion for directed certification. We did so *ex parte* in ALAB-307, NRCI-76/1 17 (January 20, 1976). The effect of the protective order was that the intervenors' counsel and technical experts would promptly obtain the information which the Licensing Board had directed be disclosed; pending our further order, however, that information was not to be further disseminated by them. *Id.* at 18.

The questions whether directed certification is warranted–and, if so, whether the ruling below should be upheld or overturned–have now been briefed and argued by the parties.[4] The oral argument additionally encompassed a recent suggestion by the applicants that the issue of the entitlement of the intervenors to unrestricted use of the disclosed contractual provisions has been mooted by supervening developments. Upon full consideration of the positions espoused by the respective parties, and for the reasons which will be developed in this opinion, we reach the following conclusions: (1) the controversy is not moot; (2) the question presented by the Licensing Board's January 9 order is deserving of appellate consideration at this time; (3) the grounds upon which the Licensing Board rested its denial of the applicants' claim that the contractual provisions should be protected against public disclosure are insubstantial; (4) the applicants have likewise misapprehended the standards governing the determination of that claim; and (5) in the totality of circumstances, the applicants should be given an opportunity to demonstrate (if they can) that, measured against the proper standards, the claim is meritorious.

[3] *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-271, NRCI-75/5 478 (May 21, 1975).

[4] The Mid-America Coalition did not file a brief or present oral argument but, instead, relied upon the submissions of the State of Kansas.

Accordingly, we are directing certification under 10 CFR 2.718(i) and remanding the certified issue to the Licensing Board with instructions. Pending the outcome of the remand, the interim protective order provided in ALAB-307 shall remain in full force and effect.

I

The applicants' suggestion of mootness is founded upon the asserted fact that the evidentiary hearing on the nuclear fuel price contentions has been completed without there arising any need "to inquire into the costs set forth in the Westinghouse contract," or indeed, to engage in any discussion of the terms of that contract. The explanation we are given is that the applicants and the intervenors entered into an agreement respecting "the basic economic parameters to be used in considering the economics of the Wolf Creek facility and coal-fueled alternatives for the purposes of this proceeding." The agreement included, *inter alia*, "those aspects of nuclear fuel costs which would have been covered by the Westinghouse contract"; *viz.*, it was stipulated that "the only fuel cost value relevant to this proceeding was [a] levelized cost of 10.5 to 11.0 mills per kilowatt hour." For its part, although not joining in the stipulation, the staff presented a cost estimate which similarly was "independent of the Westinghouse contract." In view of all these circumstances, we are told by the applicants,

> * * * the request for unrestricted disclosure of the Westinghouse contract information is now moot. The Intervenors, the Staff and the Licensing Board received the contested fuel cost information; the Intervenors stipulated to the fuel costs to be used for the hearing, the Staff did not rely on this information, and no one sought to discuss the contested information during the course of the hearing. Unrestricted disclosure at this point is unnecessary for any purpose related to this proceeding. Having agreed that the fuel cost to be used in this proceeding is as set forth in [a table entitled "Comparison of Energy Costs Nuclear and Coal" which was attached to the suggestion of mootness], Intervenors can not now argue that information relating to one component of that fuel cost has any further relevance.

In short, the applicants claim that the effect of the fuel-costs stipulation was to strip the intervenors of whatever entitlement they might otherwise have had to make use without restriction of the contract which was obtained through discovery procedures. The intervenors, however, deny that this is so; in their view, they are entitled to disclose the contract to whomever they please without regard to whether the need to introduce it into evidence has been obviated by the fuel-costs stipulation. On analysis it is manifest that, irrespective of where the right of the matter might lie, the issue thus joined is not one of mootness. The supervening developments have not eliminated the controversy as to whether the contract should be protected against unrestricted disclosure. Rather,

at most, those developments have worked a change in some of the facts which might have a bearing upon the proper outcome of that controversy.

II

The issue decided by the Licensing Board in the January 9 order not being moot, we must next decide whether it merits our consideration at this time. We conclude that it does. Unlike most interlocutory discovery orders, the one here-involved must be reviewed now or not at all. Such a consideration may not always prompt us to invoke our Section 2.718(i) certification authority. In this instance, however, the underlying issue appears to be of enough importance, and the affected interests of the parties sufficiently great, that the Licensing Board's ruling should receive appellate review.

III

The applicants' position on the merits comes down to this: 10 CFR 2.740(c)(6) authorizes licensing boards, "[u]pon motion by a party or the person from whom discovery is sought, and for good cause shown," to direct by protective order

> * * * that subject to the provisions of §§2.744 and 2.790, a trade secret or other confidential research, development, or commercial information not be disclosed or be disclosed only in a designated way * * *.[5]

In determining whether to invoke this authority, the board should invoke the standards set forth in 10 CFR Part 9, which represents the Commission's implementation of the Freedom of Information Act. Our attention is directed specifically to 10 CFR 9.5(a)(4), which exempts from disclosure in response to a request from a member of the public:

> (4) Trade secrets and commercial or financial information obtained from a person and privileged or confidential. Matter subject to this exemption is that which is customarily held in confidence by the originator. It includes, but is not limited to:
>
> (i) Information received in confidence, such as trade secrets, inventions and discoveries, and proprietary data; * * *.

In the applicants' view, the Wiesemann affidavit establishes that that test is satisfied here; *viz.*, as earlier noted, it is averred therein that the "information contained in a fuel contract is of such commerical or financial nature that it is

[5] Apart from the reference to Sections 2.744 and 2.790, Section 2.740(c)(6) is identical to Rule 26(c)(7) of the Federal Rules of Civil Procedure.

customarily held in confidence by the originator and not customarily disclosed to the public."

For their part, both the State of Kansas and the NRC staff urge that the Licensing Board reached the right result. Although acknowledging that the price provisions of the contract constitute "commercial information," the State disputes that those provisions should be deemed "confidential" as well. In this connection, the State urges that the applicants were obliged to establish, but did not below, that either they or Westinghouse would in fact suffer harm if the contractual terms were publicly disclosed. The staff also presses for the application of a "substantial harm" test and joins the State in the insistence that that test was not met by the Wiesemann affidavit. Insofar as the applicants' reliance upon the "customarily held in confidence" standard employed in 10 CFR Part 9 is concerned, the staff urges that that standard has no application here. Rather, we are called upon to obtain guidance from 10 CFR 2.790, the provision of the Rules of Practice which concerns the general availability for public inspection of records and documents in the Commission's possession.[6]

A. Before examining these competing claims, we consider the reasons assigned by the Licensing Board for the result it reached. As we have seen, the Board thought that an agreement "made in the course of interstate commerce to restrain or prohibit disclosure of commercial prices" might "violate the antitrust laws as well as infringe upon First Amendment rights." Unfortunately, the Board did not spell out the basis for this conclusion beyond its passing reference to a developing "right-to-know by the public doctrine" which it thought to be as applicable to nuclear fuel contracts as to contracts for involving other commodities such as drugs. Although the Board's order does not say so, we presume that this reference was prompted by *Virginia Citizens Consumer Council, Inc.* v. *State Board of Pharmacy*, 373 F. Supp. 683 (E.D. Va. 1974), probable jurisdiction noted, 420 U.S. 971 (1975).

Our appraisal of the Board's reasoning would have been materially aided had the Board developed it more fully. This is particularly so in view of the fact that none of the parties either advanced below or now supports the thesis that a restriction upon public disclosure here might offend the antitrust laws or the First Amendment. In circumstances where an adjudicatory board bases its ruling on an important issue on considerations other than those pressed upon it by the litigants themselves, there is especially good reason why the foundation for that ruling should be articulated in reasonable detail. If this is not done, a reviewing tribunal is left to guess as to precisely what the board rendering the ruling had in mind.

[6] Section 2.790 was recently amended, effective April 21, 1976. 41 FR 11808. The staff does not appear to suggest that the amended version should be applied here. For reasons that should become clear later in this opinion, we need not decide in this case whether the amendment has retroactive effect.

In this instance, we have drawn a blank in our speculation regarding what antitrust law or laws the Licensing Board considered might be offended were the non-disclosure agreement between Westinghouse and the applicants given effect in this proceeding. Be that as it may, we know of no provision of any statute in that area which might be deemed to foreclose an agreement between a buyer and a seller to withhold from competitors or the public at large the cost or price terms of a negotiated contract.

The Licensing Board's reliance upon the First Amendment rests upon an equally shaky footing. To be sure, in *Virginia Citizens Consumer Council, supra,* a three judge district court invalidated on First Amendment "right-to-know" grounds a Virginia statute which prohibited pharmacists from "publish[ing], advertis[ing] or promot[ing]" in any manner the "price, fee * * * discount, rebate or credit terms * * * for any drugs which may be dispensed only by prescription." But even should that decision by upheld,[7] it has no perceivable application to the present case. We are not confronted here with affirmative state action designed to prevent sellers from conveying price information to potential buyers. Rather, what we have is a voluntary agreement by two private parties to maintain the confidentiality of the terms of a contract entered into between them. Not involving state action, that agreement scarcely can be said to have been effectuated in contravention of the First Amendment. Nor are we aware of any authority which might support the theory that, as a governmental entity, this Commission is under a *Constitutional* mandate to *require* the public disclosure of commercial information in the hands of private persons who wish not to reveal it.

B. We turn now to an evaluation of the assertions of the parties before us. Our starting point is that neither the regulation relied upon by the applicants (10 CFR 9.5(a)(4)) nor that pressed upon us by the staff (10 CFR 2.790) is directly concerned with the discovery of information in the hands of a *private* party. Rather, both deal with the matter of access to records and documents contained in the files of the Commission itself. As previously noted, Section 9.5(a)(4) was promulgated in implementation of the Freedom of Information Act, which of course is addressed solely to information in the possession of a governmental agency. More particularly, the Section repeats and delineates the reach of the exemption provided in the Act for "trade secrets and commercial or financial information obtained from a person and privileged or confidential." 5 U.S.C. 552(b). Although not likewise promulgated to effectuate a statutory command, Section 2.790 operates in the same general area. It stipulates that, subject to a number of specifically enumerated exceptions, Commission "records and documents" regarding certain licensing actions or rule-making proceedings shall be made available for public inspection in the Commission's Public Document

[7] Oral argument on the appeal from it was heard by the Supreme Court last November. As of the date of this writing, the case remains under submission.

Room. One of those exceptions relates to "proprietary data." A person who seeks to have a document submitted to the Commission withheld in whole or in part from public disclosure on the ground that it contains proprietary data must make timely application for such relief in the manner prescribed by the Section.

In short, neither Section 9.5(a)(4) nor Section 2.790 can be said perforce to control the resolution of the controversy at bar. Even if the applicants are right that the Commission would not have been required to honor a Freedom of Information Act request for disclosure of the fuel supply contract had that contract become an official NRC record, it does not necessarily follow that the Licensing Board was obliged to place the intervenors' discovery of it under a protective order. By the same token, although the staff appears correct in its view that the contract has not been qualified as "proprietary data" for the purposes of Section 2.790, it does not necessarily follow that the Licensing Board could not appropriately issue a protective order on the disclosure of the document by the application to the intervenors.[8]

But that there may thus be no regulation which purports to establish standards for the issuance of Section 2.740(c) protective orders with regard to non-agency records such as the fuel supply contract in question does not mean that no guidance on the subject has been provided by the Commission. To the contrary, we find instructive the Commission's memorandum issued on June 6, 1972 in the proceeding concerning the acceptance criteria for emergency core cooling systems (Docket No. RM-50-1).[9]

Although it involved rulemaking the ECCS proceeding was conducted under adjudicatory procedures by a special three-member Hearing Board established for that purpose. During its progress, that Board was called upon to make numerous rulings with regard to the handling of allegedly proprietary information. At the request of several of the participants in the proceeding, those rulings eventually were certified to the Commission for its consideration.[10]

In essence, the Hearing Board had concluded that, in order for a claim of entitlement to protective treatment to be honored, it would have to be demonstrated that (1) the information in question was "of a type customarily held in confidence by its originator"; (2) there is "a rational basis for having

[8]We take the phrase "subject to the provisions of §§2.744 and 2.790" in Section 2.740(c)(6) to mean simply that, *where applicable*, those provisions must be given effect by the Licensing Board in determining whether to issue a protective order. In this connection, it should be noted that Section 2.744 likewise has no direct bearing upon this case; it is directed to "[a] request for the production of [a Commission] record or document not available pursuant to" Section 2.790.

[9]That memorandum is published at pp. 26-27 of "Selected Issuances of the Atomic Energy Commission and the Hearing Board in the Rulemaking Proceeding on Acceptance Criteria for Emergency Core Cooling Systems for Light-Water-Cooled Nuclear Power Reactors (Docket RM-50-1)", TID-26713, U.S. Energy Research and Development Administration (March 1975).

[10]See TID-26713, fn. 9, *supra*, at pp. 18-25.

customarily held [it] in confidence"; (3) "it has, in fact, been kept in confidence"; and (4) "it is not found in public sources."[11] The Commission expressly upheld that conclusion as being "consistent with applicable law and general Commission policy." In its view, the Hearing Board had struck "an acceptable balance between the private and public interests involved."

It is quite true that the Commission emphasized that its holding was confined to "treatment of proprietary information during the hearing phase of this proceeding" and also that it planned "in the near future" to reexamine its policies "with respect to treatment of proprietary information in regulatory proceedings." Nonetheless, in the absence of any more recent pronouncement manifesting a different Commission approach,[12] we discern no good reason not to invoke that holding here. It seems to us entirely sensible to require one seeking to place restrictions upon the disclosure of information relevant to an issue in adjudication to make the showing required in the ECCS proceeding: *viz*, that, *inter alia*, not only is the information of the type customarily held in confidence by its originator but also there is a "rational basis" for so treating it. The Commission's reference in its ECCS memorandum to the "strong public interest in conducting a rule making proceeding which is as open as possible to full public scrutiny" is no less applicable to adjudicatory proceedings. That interest most assuredly would be disserved were a licensing board or ourselves to place a veil of secrecy over some aspect of a licensing proceeding in the absence of a concrete indication that it was necessary to do so to avoid significant harm to a competing, equally cognizable interest.[13]

We therefore reject the applicants' claim that they were entitled to a protective order on the strength of the Wiesemann affidavit alone. As the applicants

[11] Since most, if not all, of the allegedly proprietary information in the ECCS proceeding previously had been furnished to the Commission, the Board had imposed the additional requirement that the transmission to and receipt by the staff had been in confidence. It is to be noted, however, that it does not appear that any of the requirements recited in the accompanying text were upheld by the Commission on the sole basis that agency records, rather than documents still exclusively in the hands of private parties, were involved.

[12] The recent amendment to Section 2.790 (see fn. 6 *supra*), does not reflect a different approach.

[13] The applicants suggest that, by "rational basis," the ECCS Hearing Board and the Commission may have had in mind only that the "procedures under which the information is classified proprietary be laid out, that they be reasonable, and that they be applied in a reasonable manner" (App. Tr. 20). We reject the suggestion. To us, "rational basis" plainly refers to the substantive underpinnings of the classification and not just to the procedures employed in making it; *i.e.*, even if those procedures are beyond reproach, the classification nonetheless may be entirely without justification and, therefore, without a "rational basis."

In this connection, compare *United States* v. *International Business Machines Corp.*, 67 F.R.D. 40, 46 (S.D.N.Y. 1975). There, the court construed Federal Rule 26(c)(7)—the judicial counterpart to 10 CFR 2.740(c)(6)—as requiring a showing that the public disclosure of the allegedly confidential commercial information would "work a *clearly defined* and *very serious injury* to the * * * business" of the applicant for the protective order.

themselves do not appear to dispute, that affidavit does not even attempt to develop the foundation for the Westinghouse decision to accord confidential treatment to the price or cost provisions of its fuel supply contracts.[14] Consequently, there is just no way of ascertaining on this record whether, and if so to what extent, Westinghouse might suffer injury were the precise terms of those provisions to enter the public domain; *i.e.*, whether there is, in fact, a "rational basis" for restricting disclosure.[15]

C. In view of the foregoing, we might possibly be justified in upholding the result reached by the Licensing Board (albeit for reasons other than those assigned by that Board). Since, however, the applicants proceeded below in at least partially uncharted waters, we have decided that fairness requires that they be given a second chance to demonstrate entitlement to the protective order which they seek. The certified issue is accordingly remanded to the Licensing Board with the following instructions:

1. The applicants are to be afforded a reasonable opportunity to establish that there is a "rational basis" for treating as confidential the cost and pricing provisions of nuclear fuel supply contracts; *i.e.*, that significant commercial injury might be sustained by one or more of the parties to such contracts were those provisions to be publicly disclosed.

2. In the event of the applicants' failure to make the requisite showing, the interim protective order put into effect by ALAB-307 is to be vacated.

3. If the applicants make the requisite showing, the interim protective order is to become permanent unless the Board further finds there to be countervailing considerations militating in favor of public disclosure which clearly outweigh the potential harm to Westinghouse and/or the applicants which might inure from such disclosure.[16] In such circumstances, the Board is to vacate the interim protective order.

---

[14] We are satisfied that the affidavit provides a sufficient basis for a conclusion that nuclear fuel supply contracts are customarily held in confidence and that the contract in issue here has in fact been kept in confidence and is not to be found in public sources. None of Mr. Wiesemann's averments to that effect has been countered by the intervenors.

[15] That the applicants are entitled to seek a protective order in the furtherance of Westinghouse's interests is no longer open to question. See ALAB-311, NRCI-76/2 85 (February 3, 1976).

[16] It is for the Licensing Board to determine, at least in the first instance, the existence or non-existence of such considerations. Nonetheless, one observation on our part seems appropriate at this juncture. In a letter under date of April 2, 1976 to counsel for the various parties, which had been prompted by the applicants' suggestion of mootness filed with us, the Chairman of the Licensing Board stressed that one of the reasons which had been assigned by that Board for the result reached in its January 9 order was "the need for an accurate cost benefit determination." Although this need doubtless exists, it is not readily apparent to us why it could not be met were the cost and price terms of the contract not to be publicly disclosed. Thus, if on remand the Licensing Board should once again rely on such a need, a full explanation of its reasoning on the point would be warranted.

4. Should the Licensing Board determine in accordance with either paragraph 2 or paragraph 3 above that the interim protective order should be vacated rather than made permanent, its order so decreeing shall contain a provision staying its effectiveness *for a period of 14 days* to enable the applicants to apply, should they be so inclined, for further relief from this Board. In the event that such an application is filed, the order vacating the interim protective order shall automatically be further stayed pending this Board's order on the application.[17]

---

Application for directed certification *granted;* certified issue *remanded* for further consideration in accordance with this opinion; interim protective order *to remain in effect pendente lite.*

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

---

[17] The directions contained in this paragraph are not inconsistent with what we said in *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-126, 6 AEC 393, 396 (1973). In that case, on a remand from us the Licensing Board had reopened the record on certain safety issues without simultaneously withdrawing the outstanding authorization for the plant's operating license. It had gone on to announce that, in the event that it later found it necessary to require a cessation of plant operations, it would accompany its order with a 20 day stay to enable the filing of appeals. We expressed our disapproval of this announcement: "While such a stay may be justified in particular circumstances, we perceive no basis upon which the Board could determine with certainty now, prior to its receipt of all the submissions on the questions involved, that regardless of the nature of the safety hazard involved, it would let the plant operate for 20 days after finding that it should be shut down." Here, of course, a stay of a Licensing Board ruling adverse to the applicants would not result in the continued operation of a reactor in the face of a found safety threat of serious dimensions. And it can be now determined with certainty that no other form of significant harm might flow from a short postponement of the effectiveness of such a ruling.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-328

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket No. 70-1729

ALLIED-GENERAL NUCLEAR SERVICES
ALLIED CHEMICAL NUCLEAR PRODUCTS, INC.
GENERAL ATOMIC COMPANY

(Barnwell Fuel Receiving and Storage Station)

Upon appeals from the Licensing Board's decision in materials license proceeding (LBP-76-12) denying the intervention petition of the American Civil Liberties Union of South Carolina (ACLU/SC) and granting the intervention petition of the 221 Pickens Street Organization, the Appeal Board rules that: (1) ACLU/SC failed to particularize how the interests of one or more of its members might be adversely affected by the grant of the sought license and hence lacked standing to intervene; and (2) the 221 Pickens Street Organization has a sufficiently particularized interest in the proceeding to confer standing and has advanced at least one marginally acceptable contention.

Licensing Board decision affirmed.

RULES OF PRACTICE: STANDING TO INTERVENE

A petitioner must state with particularity how it might be adversely affected by the outcome of a proceeding in order to have standing to intervene in an NRC proceeding. *Sierra Club* v. *Morton*, 405 U.S. 727 (1972).

Mr. Bennett Boskey, Washington, D. C. for the applicant, Allied-General Nuclear Services.

Ms. Suzanne Rhodes, Columbia, South Carolina, for the American Civil Liberties Union of South Carolina.

Mr. Robert J. Ross for the Nuclear Regulatory Commission staff.

## DECISION

## April 28, 1976

This proceeding involves the application of Allied-General Nuclear Services under 10 CFR Part 70 for a materials license to receive and possess irradiated fuel assemblies at its Barnwell Fuel Receiving and Storage Station. That facility is located in Barnwell County, South Carolina, near the town of Barnwell. In a memorandum and order issued on March 25, 1976,[1] the Licensing Board passed upon amended petitions for leave to intervene filed by the American Civil Liberties Union of South Carolina (ACLU/SC) and the 221 Pickens Street Organization (Pickens Street). The petition of ACLU/SC was denied; that of Pickens Street was granted. Appeals from these actions have been taken by, respectively, the ACLU/SC and the applicant. We affirm.[2]

A. ACLU/SC. The initial ACLU/SC petition for leave to intervene was untimely, although not excessively so. The deadline prescribed in the notice of opportunity for hearing was August 6, 1975 and the petition was filed on August 19, 1975—less than two weeks thereafter. We need not and do not decide whether, as the Licensing Board apparently thought, the petition might be susceptible of denial solely because of that modest amount of tardiness. For we are satisfied that, for another and independent reason, the result reached below must be upheld.

In *Sierra Club* v. *Morton*, 405 U.S. 727 (1972), the Supreme Court held that the Sierra Club could not predicate its standing to seek to enjoin federal agency approval of the commercial development of a portion of a national game refuge adjacent to the Sequoia National Park upon its asserted "special interest in the conservation and the sound maintenance of the national parks, game refuges and forests of the country." The basis for that holding was that, although an organization whose members are injured may represent those members in a proceeding for judicial review,

> * * * a mere "interest in a problem," no matter how longstanding the interest and no matter how qualified the organization is in evaluating the problem, is not sufficient by itself to render the organization "adversely affected" or "aggrieved" within the meaning of the APA. The Sierra Club is a large and long-established organization, with a historic commitment to the cause of protecting our Nation's natural heritage from man's depredations. But if a "special interest" in this subject were enough to entitle the Sierra Club to commence this litigation, there would appear to be no objective

[1] LBP-76-12, NRCI-76/3 277.

[2] The March 25 order also granted leave to the State of Georgia to participate in the proceeding as an "interested State" under 10 CFR 2.715(c). No appeal has been taken from that action.

basis upon which to disallow a suit by any other bona fide "special interest" organization, however small or short-lived. And if any group with a bona fide "special interest" could initiate such litigation, it is difficult to perceive why any individual citizen with the same bona fide special interest would not also be entitled to do so.

The requirement that a party seeking review must allege facts showing that he is himself adversely affected does not insulate executive action from judicial review, nor does it prevent any public interests from being protected through the judicial process. It does serve as at least a rough attempt to put the decision as to whether review will be sought in the hands of those who have a direct stake in the outcome. That goal would be undermined were we to construe the APA to authorize judicial review at the behest of organizations or individuals who seek to do no more that vindicate their own value preferences through the judicial process. The principle that the Sierra Club would have us establish in this case would do just that.

405 U.S. at 739-40; footnotes omitted.

Applying those teachings to the ACLU/SC amended petition,[3] we are compelled to conclude that there is a similar lack of standing here. It may well be that the ACLU/SC is right in its insistence to us that its "members' work on civil liberties problems provides the organization with unique qualifications to introduce evidence, question the completeness and accuracy of the information presented, and assist the Board in having before it sufficient factual information and data on civil liberties issues." But what was lacking below—despite the fact that the ACLU/SC was given the opportunity to amend its petitition and was represented by legal counsel at the hearing before the Licensing Board on the sufficiency of the amended pleading—was a particularization of how the interests of one or more members of the ACLU/SC might be adversely affected by the grant of the sought materials license. The Licensing Board accurately summarized the fatal deficiency in the ACLU/SC's papers as follows:

While the petition raises a question whether some property interests of ACLU/SC members may be injured as a result of this proceeding, we are left to speculate what they might be or how they might be injured. It is possible that this concern revolves around some perceived threat to civil liberties arising from security measures necessary to safeguard the FRSS or shipments of spent fuel to it, or from the possibility that fuel might be stored in the FRSS for substantial periods should no reprocessing be undertaken.

[3] We have previously observed that *Sierra Club* provides appropriate guidance in the evaluation of intervention petitions filed in our licensing proceedings. See, *e.g.*, *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-183, 7 AEC 222, 227 fn. 11 (1974), and cases there cited.

Perhaps ACLU/SC fears that its members will be inhibited in the enjoyment and utilization of their property for personal and business purposes.

Not only does the petition fail to spell out this interest, but ACLU/SC has further complicated matters by its failure to supply affidavits from its members which state what their concerns are and why they wish ACLU/SC to represent them. Instead, all we are furnished is a single affidavit from a member residing some 30 miles from the plant site. That affidavit merely attests to the truth of the petition. It does not specify why the affiant believes her civil liberties to be in danger, or which of her property interests may be injured by this proceeding. Certainly ACLU/SC's case would be stronger had it supplied affidavits from members indicating their specific property interests and their own civil liberties.

It is evident from the petition and supporting papers that ACLU/SC is simply afraid there may be a problem for civil liberties growing out of this proceeding. Counsel for ACLU/SC has candidly stated: "We feel that while generally health and safety are coincidental with the preservation of civil rights, they are not always coincidental. There may be rights to travel, property rights, rights to privacy and others which do not hit one fullface so far as injury goes. . . . What we need to do is we need to cross examine the various witnesses to make this determination on our own" (Tr. 94). Thus, ACLU/SC's real interest is to use this proceeding as a vehicle for determining whether there may indeed be threats posed to civil liberties by issuance of the proposed license.

NRCI-76/3 at 286.

B. Pickens Street. Even as amended and then elaborated upon at a preliminary hearing, the Pickens Street petition is not a model of precision and clarity. It appears, however, that Pickens Street is an "unincorporated nonprofit, educational membership association" organized at Columbia, South Carolina in 1973 for the purpose of providing "a medium whereby members can study basic problems confronting human society and put into practical application solutions they find." In the furtherance of that purpose, it conducts a program "aimed at the study of diet, nutrition and alternative food sources"; to implement that program, it operates a vegetarian restaurant, juice bar and natural food store in Columbia. It is asserted by Pickens Street that the produce sold or consumed at its facilities comes from an organic garden it sponsors in Peak, South Carolina, as well as from other sources in that State. The organization's concern is that the movement of spent fuel to Barnwell along established transportation routes in close proximity to the sites of some of those sources might occasion harm (as a result of radiation releases) to the produce and make it unfit for sale or consumption.

This seemed to the Licensing Board to be a sufficiently particularized interest in the proceeding at bar to confer standing to intervene. Although we think whether the *Sierra Club* test has been met to be a close question, we defer to the Licensing Board's judgment on it. *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-107, 6 AEC 188, 193 (1973); *Duquesne Light Co.* (Beaver Valley Power Station, Unit No. 1). ALAB-109, 6 AEC 243, 244 (1973). Further, we see no reason to disturb that Board's additional conclusion that Pickens Street has advanced at least one marginally acceptable contention; namely that, to the possible damage of the organization and its members, the NRC staff and the applicant have erred in their predictions of the level of radioactive releases in "normal operation of [Barnwell], including the transportation of materials to and from said facility." Whether that contention is, in fact, meritorious is of course irrelevant for present purposes. *Mississippi Power & Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 426 (1973).

---

The order under appeal is *affirmed.*
It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA LBP-76-13
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Elizabeth S. Bowers, Chairman
Glenn O. Bright
Dr. Richard F. Cole

In the Matter of Docket Nos. 50-448
50-449

POTOMAC ELECTRIC POWER COMPANY

(Douglas Point Nuclear Generating Station, Units 1 and 2

April 1, 1976

The Licensing Board issues a prehearing conference order and announces that it and the State of Maryland Public Service Commission will hold a joint evidentiary hearing in accordance with an attached "Joint Hearing Protocol."

ORDER RELATIVE TO A
PREHEARING CONFERENCE AND EVIDENTIARY HEARING

A prehearing conference will be held in the Nuclear Regulatory Commission Hearing Room on the 5th floor, East West Towers Building, 4350 East West Highway, Bethesda, Maryland, at 9:30 a.m. (local time) on April 14, 1976. Appropriate matters under 10 CFR 2.752 will be considered. The public is welcome to attend. No limited appearance statement will be accepted at the prehearing conference.

This Board and the State of Maryland Public Service Commission have agreed to hold a joint evidentiary hearing in accordance with the enclosed "Joint Hearing Protocol." The hearing will be held in the East Circuit Court Room, Circuit Court for Charles County, East Charles Street, La Plata, Maryland. The proceeding will commence at 10:00 a.m. (local time) on May 17, 1976.

The public is welcome to attend. Limited appearance statements will be accepted at this evidentiary hearing. Oral statements will be limited to five (5) minutes but written statements may be submitted without limitation on length. If there is sufficient interest, one or more evening sessions will be scheduled for limited appearance statements.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Elizabeth S. Bowers, Chairman

Dated at Bethesda, Maryland,
this 1st day of April, 1976.

## JOINT HEARING PROTOCOL

### I. STATEMENT OF PURPOSE

The Potomac Electric Power Company (PEPCO) has applied to the Atomic Energy Commission[1] for permits to construct the Douglas Point Nuclear Power Plant, Units 1 and 2, in Charles County, Maryland. PEPCO has also applied to the Public Service Commission of Maryland for a Certificate of Public Convenience and Necessity and to other State and local agencies for permits required under Maryland law for construction of the plant. The Sierra Club/Prince George's County Environment Coalition/Environmental Defense Fund, the Citizens Council for a Clean Potomac/Chesapeake Bay Foundation, the State of Maryland and its People's Counsel, the Commonwealth of Virginia, and Mr. Edward Wojciechowicz/D.C. Public Interest Research Group have petitioned to intervene and have been admitted as parties to proceedings before one or both of the above agencies considering the Douglas Point Nuclear Power Plant Applications.

It is in the interest of all parties involved in these proceedings that a joint hearing be held between the Nuclear Regulatory Commission (through their Atomic Safety and Licensing Board), and the Public Service Commission of Maryland to consider and take evidence on issues common to both proceedings and within the concurrent jurisdiction of both agencies. It is believed that a joint hearing would be in the public interest and would benefit all parties by expediting the decision-making processes and by reducing time, effort, and expenditures which would otherwise be incurred by the parties were separate hearings held. The joint hearing, to be held in Charles County, Maryland, would be for the purpose of simultaneously compiling two evidentiary records on the issues common to both proceedings. At the conclusion of the hearing, the Atomic Safety and Licensing Board will issue an Initial Decision in accordance with the

[1] Pursuant to an executive order dated January 15, 1975, the Nuclear Regulatory Commission (NRC) was activated effective January 19, 1975. NRC, under the terms of the Energy Reorganization Act of 1974 (Public Law 93-438: 88 Stat. 1233) will carry out the licensing and regulatory functions formerly assigned to the Atomic Energy Commission.

Nuclear Regulatory Commission's Rules of Practice in 10 CFR Part 2. The Public Service Commission of Maryland will separately issue its decision in accordance with its established practice.

## II. COMPOSITION OF JOINT HEARING BODIES

The hearing shall be held before an Atomic Safety and Licensing Board (ASLB) of the U.S. Nuclear Regulatory Commission, the members of the Public Service Commission (PSC) of Maryland or their designees, with the Charles County Commissioners having the right to participate. Unless otherwise provided in this protocol, each body shall be governed by its own rules and regulations.

## III. PROCEDURE FOR THE HEARING

a. **Record:** A single transcript of the evidence adduced at the joint hearing shall be made for purposes of each proceeding.

b. **People's Counsel Status:** For purposes of appearance before the ASLB during the joint hearing, Maryland's People's Counsel shall be accorded all the rights and remedies of an interested State under 10 CFR § 2.715(c) of the Nuclear Regulatory Commission's Rules of Practice.

c. **Motions:** Presentation, disposition, form, content, and answers to a motion made before one body but not the other shall be ruled upon by that body. Unless made orally on the record during the hearing, joint motions made before both bodies shall be in writing, shall state with particularity the grounds and relief sought, and shall be accompanied by any affidavits or other evidence relied upon, and, as appropriate, a proposed form of order. Within ten (10) days after service of a written joint motion before both bodies, a party may file an answer in support of or in opposition to the joint motion, accompanied by affidavits or other evidence.

d. **Rulings:** The hearing bodies shall individually make necessary rulings on procedural questions. Any objection to evidentiary offerings and motions shall be heard by both bodies and individual rulings by each body shall be made thereon. When both bodies rule that any evidentiary offering is objectionable, the offering shall not be received in evidence. Where only one body rules that an evidentiary offering is objectionable, the offering shall be received in evidence only by the non-objecting body. In such an instance, the ruling that the evidence is objectionable shall be entered into the record of the objecting body and the evidence so received shall not be part of the evidentiary record of that body.

## IV. PREHEARING CONFERENCE

Both bodies may schedule one or more joint prehearing conferences prior to

the evidentiary hearing for the purpose of considering the following preliminary matters, if applicable:

1. formalizing and designating contentions already proffered as matters in controversy by the parties for the purpose of ascertaining and designating those contentions which are properly the subject of a joint hearing;
2. the necessity or desirability of amending pleadings;
3. the obtaining of stipulations and admissions of fact and of the contents and authenticity of documents to avoid unnecessary proof;
4. identification of witnesses and the limitations of the number of expert witnesses, and other steps to expedite the presentation of evidence;
5. the setting of the hearing schedule;
6. setting the order in which contentions shall be heard and the order in which the parties shall present their direct evidence;
7. determining the necessity or desirability of a site visit; and
8. such other matters as may aid in the orderly disposition of the proceeding.

## V. WRITTEN TESTIMONY

The parties shall submit direct testimony of witnesses in written form. Each party shall serve copies of its proposed written testimony on each other party and the hearing bodies at least ten (10) days in advance of the date set for that segment of the hearing. Proposed written testimony of an expert witness shall contain a statement of professional qualifications.

## VI. SERVICE OF DOCUMENTS

Documents shall be served on all persons designated on the service list of each commission. Service may be made by personal delivery, by first-class, certified or registered mail including air mail, by telegraph, or as otherwise authorized by law.

## VII. EVIDENTIARY HEARING

A. The evidentiary hearing shall commence on the date and time specified by the hearing bodies. Each body shall have the opportunity to make initial opening statements in the following order: the ASLB, the PSC & the Board of County Commissioners of Charles County. The proceeding will be subject to control generally by the ASLB.

B. After such opening statements as members of the hearing bodies may wish to make and disposition of all preliminary matters, the boards shall hear all persons wishing to make limited appearances. For the convenience of persons wishing to make limited appearance statements, there will be one or more evening sessions.

C. Upon tentative completion of the limited appearances, opening statements of the parties will be heard in the following order:

1. Applicant
2. NRC Staff
3. People's Counsel
4. Intervenors (in alphabetical order)
5. Maryland
6. Virginia

D. Contentions shall be considered one at a time by all parties in the order determined by the joint bodies.

E. Testimony may be taken in direct and cross-examination, redirect and recross-examination, rebuttal and surrebuttal, and shall be taken in the same order specified in paragraph C above.

F. Parties may present witnesses individually or may present witnesses in a panel.

G. After all parties have completed their cases with respect to the contentions in a segment of the total evidentiary hearing, each party shall be permitted a closing argument.

H. At the conclusion of various segments of the evidentiary hearing, each body shall set a schedule for the submission of all necessary findings, conclusions, or recommendations. Each body shall issue such initial decisions, recommendations, licenses, or permits as appropriate under the rules and regulations governing their respective agencies.

## VIII. EXAMINATION BY EXPERTS

A party may request the joint hearing bodies to permit a qualified individual who has scientific or technical training or experience to participate on behalf of that party in the examination and cross-examination of expert witnesses. The bodies may permit such individual to participate on behalf of the party in the examination and cross-examination of expert witnesses, where it would serve the purpose of furthering the conduct of the proceeding, upon finding (a) that the individual is qualified by scientific or technical training or experience to contribute to the development of an adequate decisional record in the proceeding by the conduct of such examination or cross-examination, (b) that the individual has read any written testimony on which he (she) intends to examine or cross-examine and any documents to be used or referred to in the course of the examination or cross-examination, and (c) that the individual has prepared himself (herself) to conduct a meaningful and expeditious examination or cross-examination. Examination or cross-examination conducted pursuant to this section shall be limited to areas within the expertise of the individual conducting the examination or cross-examination. The party on behalf of whom such examination or cross-examination is conducted and his (her) attorney shall be responsible for the conduct of examination or cross-examination by such individuals.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-14

ATOMIC SAFETY AND LICENSING BOARD

Marshall E. Miller, Chairman
Gustave A. Linenberger
Dr. Ernest O. Salo

In the Matter of

Docket No. 50-537

PROJECT MANAGEMENT CORPORATION
TENNESSEE VALLEY AUTHORITY

(Clinch River Breeder Plant)

April 6, 1976

The Licensing Board issues a prehearing conference order in which it rules on the admissibility of all contentions and resolves other procedural questions.

LICENSING BOARD: SCOPE OF REVIEW

Although a licensing board may under certain circumstances reject contentions on legal grounds on the pleadings, it is not permitted to make determinations concerning the merits of contentions otherwise admissible. Where contentions involve mixed questions of law and fact, they are not appropriate for determination as a matter of law on the pleadings alone.

REGULATORY GUIDES: STATUS

A document such as the staff's Standard Format outlining information to be included in license applications does not amount to an agency's construction of its own regulations, to which courts customarily accord respect. Such documents are useful as guides, but they are not regulations. They represent the opinion of one of the parties to the adjudicatory licensing process and as such cannot be viewed as necessarily controlling.

NEPA: COST-BENEFIT BALANCE

An evaluation of the potential costs of safeguarding a reactor, fuel cycle facilities and transportation supports should be included in a NEPA cost-benefit balance.

## NEPA: INDEPENDENT INQUIRY BY FEDERAL AGENCY

Section 102 of NEPA does not permit one agency to proceed without an independent evaluation and balancing of environmental factors, even if other agencies have already certified that their own standards have been satisfied. A licensing agency is required to take into account the environmental costs of a project as a whole, which it may do by accepting, rejecting, or modifying the analysis of other agencies, *Calvert Cliffs Coordinating Committee* v. *AEC*, 449 F. 2d 1109 (D.C. Cir. 1971); *Henry* v. *FPC*, 513 F. 2d 395 (D.C. Cir. 1975).

## NEPA: "FEDERAL ACTION"

For the purposes of NEPA there is deemed to be "federal action" not only when an agency proposes to build a facility itself, but also whenever an agency licenses another party, private or governmental, to take action affecting the environment. *Scientists' Institute for Public Information, Inc.* v. *AEC*, 481 F. 2d 1079 (D.C. Cir. 1973).

## SPECIAL PREHEARING CONFERENCE MEMORANDUM AND ORDER

A special prehearing conference was held in this proceeding on March 22-23, 1976, pursuant to proper notice. This prehearing conference considered the admissibility of all contentions, the status of discovery, the results of conference among the parties, and the schedule for subsequent proceedings. Based upon the pleadings, moving papers and arguments of counsel, the Board enters the following orders.

### I. ADMISSIBILITY OF NRDC CONTENTIONS

#### Contention 1(a)

NRDC's restated Contention 1(a), originally Contention 1(b), alleges that the application is illegal because the submission of both a "reference design" and a "parallel design" is inconsistent with 10 CFR §50.34(a)(3). The Applicants challenge this contention as an attack on the Commission's regulations, and asks the Board to reject it as a matter of law. The Staff urges that the contention should be rejected because the submission of alternative designs is consistent with the purpose of submitting a PSAR, and the NRC has the discretion to apply its technical expertise in developing a practical administrative interpretation of 10 CFR §50.34(a) (3).

Although a licensing board may under certain circumstances reject contentions on legal grounds on the pleadings,[1] it is not permitted to make determinations concerning the merits of contentions otherwise admissible.[2] We regard the resolution of this issue as turning upon an interpretation of various regulations promulgated by the Commission, and also involving mixed questions of law and fact. Accordingly, it is not appropriate for determination as a matter of law on the pleadings alone.

The applicable regulations do not clearly and unequivocally either permit or prohibit an alternative parallel design of the magnitude here alleged. The Staff's Standard Format outlining the information to be included in PSARs for light-water reactors does not amount to an agency's construction of its own regulations, to which the courts customarily accord respect.[3] Such documents are useful as guides, but they are not regulations and, insofar as the adjudicatory process is concerned, they represent the opinions of one of the parties to that process and as such cannot be viewed as necessarily controlling.[4]

The Intervenor NRDC urges its interpretation based on its assertions that this kind of alternative design is "extraordinary," leaving "a major portion" of the plant design unsettled, and of a magnitude amounting in effect to two entirely different plant designs with major differences, not contemplated by the cited regulations. The Board cannot evaluate such factual matters on the pleadings alone.

Contention 1(a) is not an attack on the Commission's regulations, but rather is a request for their interpretation and application in a certain manner. The fact that there is disagreement among the parties as to the proper construction of regulations does not transform the dispute into a challenge of regulations.

Nor can we hold that this issue must be resolved prior to any hearings as urged by NRDC. In the present state of the record, additional factual and other information is required, and such a decision cannot rest on the pleadings alone.

Contention 1(a) adequately states a relevant contention with reasonable specification and with some basis assigned for it which satisfies the dictates of 10 CFR §2.714, and is held to be an admissible contention.

---

[1] Potomac Electric Power Company (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-218, RAI-74-7, 8 AEC 79, 85, 89 (July 15, 1974).

[2] Northern States Power Company (Prairie Island 1 and 2), ALAB-107, 6 AEC 188 (1973); Duquesne Light Co. (Beaver Valley, Unit 1), ALAB-109, 6 AEC 244 (1973).

[3] *Power Reactor Development Co. v. International Union of Electric Workers*, 367 U.S. 396, 409 (1961).

[4] Vermont Yankee Nuclear Power Corporation, ALAB-179, RAI-74-2, 159, 174 note 27 (February 28, 1974). *See also* ALAB-217, RAI-74-7, 61, 68 (July 11, 1974).

### Contention 1(b)

NRDC's restated Contention 1(b) (originally Contention 1(c)) alleges that the CRBR application is illegal because Applicants TVA and ERDA had not prepared an environmental impact statement prior to their decision to build and operate the CRBR, thereby violating the requirements of the National Environmental Policy Act. The Board notes that a report—ERDA-1535—bearing the title Final Environmental Statement, Liquid Metal Fast Breeder Reactor Program was issued by ERDA in December, 1975. The Board assumes that ERDA-1535 is what its title purports to be, without judging its validity or adequacy. Contention 1(b) is construed to challenge both the timeliness and the validity of ERDA-1535 in satisfying the obligations placed upon ERDA and TVA by NEPA. The question of whether or to what extent the technical adequacy of ERDA-1535 is an issue properly before this Licensing Board is addressed below in the context of contentions 10, 11 and 13 propounded by NRDC. The timeliness of issuance and the validity of ERDA-1535 as a programmatic environmental impact statement sufficient to satisfy ERDA's own NEPA responsibilities, are matters to be determined by the courts. The admissibility of Contention 1(b) is denied on the basis that a court, not this Board, constitutes the proper forum for this issue. Since the technical adequacy and merits of ERDA-1535 are not at issue in this contention, the Board finds no basis for delay of this proceeding pending the results of a challenge (if any) to the legality of the LMFBR programmatic impact statement in court.

### Contention 1(c)

NRDC's restated Contention 1(c) (originally Contention 1(d)) alleges that since no final programmatic environmental impact statement has been issued or reviewed by ERDA, no lawful basis exists for justifying the CRBR. The Board notes the similarity of this contention to Contention 1(b), one difference being that the timeliness of issuance is not an issue. A final programmatic statement—ERDA-1535—has been issued by ERDA. The finality of it is presumably based upon currently available, although incomplete, information. As with Contention 1(b), the admissibility of this contention is denied on the basis of its being an issue properly before a court and not within the purview of this Board. The technical merits of ERDA-1535 in relation to this licensing proceeding are considered hereafter in connection with Contentions 10, 11 and 13.

### Contention 1(d)

Contention 1(d) asserts that consideration of the application is premature because NRC studies and rule-making regarding possible countermeasures to

sabotage, terrorism and theft involving mixed oxide fueled reactors, have not been completed. However, the licensing action sought in the CRBR project does not depend upon the wide-scale or commercial use of such breeder reactors throughout the United States. As held in *Consumers Power Company* (Big Rock Nuclear Plant), CLI-75-10, NRCI-75/8, 188 (August 11, 1975), it is sufficient that an FES will be prepared which will make a discrete environmental impact analysis of the plutonium in CRBR. That is sufficient for the NEPA review required in this case, and these proceedings may commence prior to a final resolution of the GESMO proceeding. Accordingly, proposed Contention 1(d) is denied.

**Contention 1(e)**

Contention 1(e) asserts that the LWA procedure is inapplicable to a first-of-a-kind reactor such as CRBR because the resolution of safety issues is an essential component of a NEPA review. The Board holds that this contention is admissible under 10 CFR §2.714 but that it is premature for resolution until after the LWA hearing. There is no necessity to defer the start of the LWA proceeding until a final safety evaluation report is available. It is clear that under 10 CFR 50.10(e)(4), an Applicant proceeds at his own risk in such a proceeding. To whatever extent health and safety matters may later require a modification of LWA findings, the Intervenors will have an opportunity to urge that information omitted in the NEPA analysis because the safety review was incomplete, affects the ability of this Board to make the findings required for an LWA authorization.

**Contentions 2, 3 and 4**

Contention 2 asserts that the Applicants must establish prior to a construction permit decision that core disruptive accidents (CDA's) have a sufficiently low probability that they may be excluded from the design bases for CRBR. Contention 3 states that it has not been established that the consequences of CDA's contained in the PSAR are adequate. Contention 4 alleges that the Applicants have not given sufficient attention to accidents other than the DBA's. None of the parties have objected to these contentions, which are the subject of a filed stipulation. The Board holds that Contentions 2, 3 and 4 are admissible under the requirements of 10 CFR §2.714.

**Contention 5**

This contention asserts that the Applicant does not analyze the health and safety consequences of acts of sabotage, terrorism or theft directed toward the CRBR or facilities, nor does it adequately analyze preventive programs. We hold

that an evaluation of the potential cost of safeguarding the CRBR, fuel cycle facilities and transportation supports should be included in the NEPA cost-benefit analysis, and hence Contention 5 is admitted.

### Contention 6

Contention 6(a) alleges that the Applicants have not established that the site selected or the review process conforms to the requirements of NEPA or the Atomic Energy Act. We deny the admissibility of Contention 6(a) because it is too general and lacks the specificity required by 10 CFR §2.714. However, Contentions 6(b) and (c), dealing with site meteorology and the proximity of other facilities, are adequate to state admissible contentions. It is noted that paragraphs (b) and (c) are not objected to by any party in accordance with the filed stipulation.

### Contention 7

Contentions 7(a) and (b) state that adequate standards for protection of public health and safety from exposures to plutonium and other actinides have not been established.We deny these contentions as constituting a direct challenge to Commission regulations, which we are not empowered to consider. Since the Commission is already considering this issue as a generic matter, the instant adjudicatory proceeding is not the proper forum to consider this issue.

At the request of the Board, the Intervenor NRDC has reworded Contention 7(a) to eliminate a challenge to the regulations, and to state a residual risk claim for a NEPA analysis even if the regulations are complied with. This reworded contention does not waive the right of NRDC to assert the original contention, which was denied above (Tr. 218, 397, 399). As reworded, we hold Contention 7(a) is admissible.

Contention 7(c), stating that guidelines values for once-in-a-lifetime bone and lung exposures used in the PSAR have not been shown to have a valid basis, has not been challenged and is included in the filed stipulation. It is held to be admissible.

### Contention 8

Contention 8 alleges that Applicants have not demonstrated that they made an adequate estimate of the biological effects or radiation associated with CRBR, or that the plant is designed to limit the risk from all radiation exposure to as low as practicable. The Board considers this contention to constitute a direct challenge to the occupational dose limits in 10 CFR §20.101, not cognizable in this proceeding.

At the request of the Board, NRDC has filed a reworded Contention 8, subject to the same reservations as were noted above with reference to Contention 7. As reworded, we construe Contention 8 not to amount to a challenge of the regulations, but to raise the issue of residual risk for NEPA analysis even if the regulations are complied with. This issue may be considered under the authority of *Citizens For Safe Power v. NRC,* 524 F.2d 1291 (CA DC, 1975). Contention 8 as reworded is held admissible.

**Contention 9**

This contention alleges that the ER does not include an adequate analysis of the environmental impact of the fuel cycle associated with the CRBR. No objections have been made to this contention, which is included in the filed stipulation. Contention 9 is held to be admissible.

**Contentions 10, 11 and 13**

NRDC's restated Contentions 10, 11 and 13 undertake to question or challenge many of the conclusions reached by ERDA in its LMFBR final environmental statement (ERDA-1535). Both the Staff and the Applicants take the position that such contentions are beyond the jurisdiction of this Licensing Board, and that the conclusions of ERDA as the agency with overall responsibility for LMFBR research and development must be accepted.

The former Atomic Energy Commission (AEC) combined in one agency both the research and development functions now vested in ERDA, as well as the licensing and regulatory powers now exercised by NRC under the Energy Reorganization Act of 1974.[5] Commencing with the *Calvert Cliffs* decision,[6] courts in the District of Columbia circuit have considered the impact of the National Environmental Policy Act of 1969 (NEPA) requirements and its "extraordinarily broad" national policy upon the performance of these functions.

In *Calvert Cliffs* it was held that an AEC rule, precluding an independent evaluation and balancing of environmental factors if other responsible agencies had already certified that their own environmental standards were satisfied, fundamentally conflicted with the basic purpose of NEPA. The magnitude of possible benefits and possible costs might lie anywhere on a broad spectrum, and Congress did not authorize a "total abdication" to other federal, state and local agencies. The Court drew a distinction between Section 101 substantive duties and Section 102 procedural duties under NEPA. Under Section 101 agencies

[5] Pub. L. No. 93-438, §§ 101-110, 201-209; 42 U.S.C. § 5811 *et seq.*

[6] *Calvert Cliffs Coordinating Committee* v *AEC,* 449 F.2d 1109 (CA DC, 1971).

were required to "use all practicable means consistent with other essential considerations" to avoid environmental degradation and to promote the beneficial uses of the environment. This substantive policy was deemed to be flexible, leaving room for the responsible exercise of discretion. However, the procedural duties of Section 102 established a strict standard of compliance which must be fulfilled to the "fullest extent possible." It was stated that such language "does not provide an escape hatch for footdragging agencies . . . Congress did not intend the Act to be such a paper tiger."[7] In frequently quoted language the Court observed, "We believe that the Commission's crabbed interpretation of NEPA makes a mockery of the Act . . . Its responsibility is not simply to sit back, like an umpire, and resolve adversary contentions at the hearing stage."[8]

The development of the liquid metal fast breeder reactor (LMFBR) program and its NEPA consequences were considered by the Court in *SIPI.*[9] It held that the program came within Section 102(C) of NEPA and a detailed programmatic impact statement was presently required, in view of the magnitude of the federal investment, and controversial environmental effects, the accelerated pace of the program, and the manner in which investment in the new technology is likely to restrict future alternatives. The rapid commercial implementation of LMFBR technology had become a national mission by announcement of the President, and Congress supports the program through annual appropriations.[10] The AEC took inconsistent positions regarding its NEPA programmatic responsibilities, first suggesting that analysis of overall environmental aspects of the total program should take place within statements on individual facilities, but undercutting this approach by stating that it would be a mistake to freight on an environmental report on a single facility all of those broader considerations. Again the Court held that the "Commission takes an unnecessarily crabbed approach to NEPA" in assuming that the impact statement process was designed only for particular facilities rather than the overall effects of broad agency programs.[11] There was deemed to be "federal action" under NEPA not only when an agency proposed to build a facility itself, but also whenever an agency licensed another party, private or governmental, to take action affecting the environment. When technological advances are once brought to a state of commercial feasibility, the investment in their development acts to compel their application. Accordingly, a NEPA programmatic impact statement was required, although under a rule of reason the agency need not "foresee the unforsee-

[7] Id., at p. 1114.

[8] *Id.*, at pp. 1117, 1119.

[9] *Scientists' Institute For Public Inforamtion, Inc.* v. *AEC*, 481 F.2d 1079 (CA DC, 1973). *See also Cady* v. *Morton*, 527 F.2d 786, 795, n. 9 (CA 9, 1975).

[10] *Id.*, at p. 1084.

[11] *Id.*, at pp. 1086-1087.

able."[12] It was held not to matter whether the analysis of the overall program was issued as a separate NEPA statement or was included within the statement on a particular facility, as such questions properly resided within the discretion of the agency.

Following the division of the former Atomic Energy Commission's functions between ERDA and the NRC by the Energy Reorganization Act of 1974, *supra,* the LMFBR program was again before the Court. In *East Tennessee Energy Group,*[13] a preliminary injunction was sought to compel ERDA to withdraw a legislative proposal involving the Clinch River Breeder Reactor project (CRBR). The Court stated that ERDA assumed the energy development responsibilities of the AEC. Its regulatory functions were transferred to the NRC, and under the new statutory scheme, ultimate approval of the construction and operation of the Clinch River project is subject to the independent investigatory and licensing procedures" of the NRC. In denying an injunction the Court held that it was not necessary to file a new, separate environmental impact statement for the CRBR project, since site clearance could only begin after licensing approval by NRC. Furthermore, as the prototype plant the CRBR project was "subsumed into the overall LMFBR impact statement. ERDA need not pause at this juncture to reevaluate the individual project as long as the LMFBR statement performs a cost-benefit analysis on the total program and its component parts and weighs carefully all available alternatives."

In a recent case the District of Columbia circuit has considered the NEPA implications in a lead agency situation involving the Federal Power Commission (FPC). *Henry* v. *FPC*[14] held that the jurisdiction of the FPC under the Natural Gas Act did not extend to the production, transportation and sale of unmixed synthetic gas produced from coal. However, the Court held that the FPC role under NEPA was not limited to an evaluation of the incremental impact on the environment of the jurisdictional tap and valve facility, where the coal gasification project of which that facility was an integral part constituted a major federal action. The gasification project required the approval of several federal agencies, and the Bureau of Reclamation was designated as the lead agency to prepare a programmatic draft environmental impact statement. The FPC's position that when it considered a §7 application for tap and valve facilities it need consider only part of the environmental damage (the incremental damage) and hence need only consider part of the NEPA impact statement, was inconsistent with its obligations under NEPA. At page 407 the Court stated:

"The reason why the issue raised by EDF is premature at the present time is simply that the FPC is not necessarily required to prepare a full environ-

[12] *Id.*, at p. 1092.

[13] *East Tennessee Energy Group, Inc.* v. *Seamans*, 7 ERC 2144 (DC DC, 1975).

[14] 513 F.2d 395 (CA DC, 1975).

mental impact statement for the gasification project. It can rely on the statement prepared by the lead agency. What is required is that the FPC, in deciding whether to grant, deny or condition certificates of public convenience and necessity for admittedly jurisdictional facilities, take into account the environmental costs of the gasification projects as a whole. It may do this by accepting, rejecting, or modifying the analysis of the lead agency."

It was further held, citing *NRDC v. Morton*, 458 F.2d 827 (CA DC, 1972), that NEPA requires that the eivironmental impact statement discuss all alternatives reasonably available, including those beyond the jurisdiction of the agency to adopt, and that this integration of environmental consideration is consistent with a "lead agency" concept.[15]

Other courts have also considered the NEPA implications of impact statements prepared by other agencies. In *Green County*[16] a state power authority had prepared an environmental impact statement, which the FPC staff had reviewed as to form and circulated for comment to other federal agencies. The Court held that the agency staff was required to prepare its own impact statement, which was subject to cross-examination by intervenors and full scrutiny in the hearing process. The primary and non-delegable responsibility for fulfilling NEPA functions lay with the Commission, which had abdicated a significant part of its responsibility by not preparing its own impact statement.

In a case involving the Tennessee Valley Authority's Browns Ferry Nuclear Plant, another licensing board has held that an independent staff review is required under NEPA even though the applicant is another federal agency.[17] A so-called "lead agency agreement" had been entered into by TVA and the AEC staff regarding a final environmental statement. Such agreement was held not to relieve the AEC staff of its NEPA obligation to make an independent evaluation of the environmental consequences of the project.

In applying the foregoing principles to the instant case, it should be observed that several levels of NEPA duties are involved. ERDA has its own programmatic duties as the agency with overall responsibility for LMFBR research and development, and has issued a LMFBR program final environmental statement (FES). As a federal agency granting licenses for activities which might significantly affect the environment, the NRC has its own NEPA responsibilities which it discharges by the adjudicatory hearing process. And ERDA as the applicant for the CRBR is the activating agency for a particular project subject

[15] Id., at p. 406.

[16] *Greene County Planning Board* v. *FPC* 455 F.2d 412 (CA 2, 1972).

[17] Tennessee Valley Authority (Browns Ferry Nuclear Plant), LBP-73-29, 6 AEC 682 (September 6, 1973).

to licensing, in which role it has filed an environmental report (ER) with NRC. The inter-relationship among these NEPA requirements and procedures is the subject of these contention issues.

We hold that the issuance of its programmatic FES by ERDA does not alone oust this Licensing Board or NRC from all jurisdiction to consider or analyze its contents in this processing. As the Court held in *Henry v. FPC,* p. 407, *supra,* where the FPC was considering whether to issue a certificate for one phase of a broader project, the licensing agency is required to take into account the environmental costs of the projects as a whole, which we may do "by accepting, rejecting, or modifying the analysis of the lead agency." NRC is not required or permitted totally to abdicate all of its own NEPA responsibilities (*Calvert Cliffs,* pp. 1123-1124, *supra; Greene County,* p. 420, *supra).* The licensing of the CRBR project "is subject to the independent investigatory and licensing procedures of the Nuclear Regulatory Commission" (*East Tennessee,* note 1, *supra*). There is no indication in the Energy Reorganization Act of 1974 that the NRC licensing functions were in any way diluted or modified when considering an ERDA demonstration plant involving the LMFBR. It is apparent that NRC could not independently perform its own NEPA duties, or use its reasoned judgment to accept, reject, or modify ERDA's impact statement, if it were merely to use a rubber stamp on the ERDA FES. A blind and automatic acceptance of ERDA's environmental conclusions or the bases therefor is not imposed on either the Staff in preparing its FES, nor on this Licensing Board in performing its NEPA adjudicatory function.

If the CRBR Project were justifiable solely upon the bases of the electrical energy and/or the fuel it would produce, the task of the Licensing Board would be relatively more straightforward. However, the primary justification for the project flows from the informational needs of the broader LMFBR program. Hence to undertake a NEPA assessment of the CRBR project without some consideration of those needs and the most viable method of satisfying them, would impose an intolerably crabbed or circumscribed outlook upon the regulatory process. Thus, this proceeding must at least to some extent consider the LMFBR program FES in order to test the need for the CRBR project. Not to do so would be to tacitly assume that the ERDA FES adequately satisfies the mandate of NEPA in its balancing of benefits against risks, albeit at a stage where incomplete information exists. The potential for the lack of neutrality of a government agency in evaluating the risks and benefits of its own technology development program has been noted by the courts.

The Board notes that ERDA's "final" LMFBR programmatic environmental impact statement (ERDA-1535) was published subsequent to the original submittal of Intervenors' (NRDC *et al.*) proposed contentions. This report is "final" only to the extent that it represents an assessment of the best information available at the time of publication, and to the extent that it has had the benefit

of extensive reviews and comments. It is always possible that additional significant information may become available during the successive phases of this proceeding.

The public welfare, which is the paramount concern of NRC as a licensing and regulatory agency, is best served by permitting this Board to analyze the ERDA programmatic impact statement to the extent necessary to discharge its own NEPA responsibilities. However, this does not mean that it would be appropriate to perform anew all of the work done by ERDA in drafting its program FES. Some general guidelines regarding the use by one agency of environmental impact statements prepared by another agency may be found in the cases cited above. For example, in *SIPI* it was noted that a program statement "provides an occasion for a more exhaustive consideration of effects and alternatives than would be practicable in a statement on an individual action" (*supra,* at p. 1087). The court also stated that the issues discussed in an analysis of the overall program would be quite different from those discussed for a particular facility, and the relevant audiences would vary (*supra,* p. 1093). And in *Calvert Cliffs* it was held that consideration of environmental impacts "which is entirely duplicative is not necessarily required. But independent review of staff proposals by hearing boards is hardly a duplicative function" (*supra,* p. 1118). *Henry* held that the FPC could rely on the full environmental impact statement of the lead agency, provided that it took into account the environmental costs of the gasification projects as a whole, which it might do by accepting, rejecting, or modifying the analysis of the lead agency (*supra,* p. 407). Similarly, *NRDC* v. *Morton* stated that "As to alternatives not within the scope of authority of the responsible official, reference may of course be made to studies of other agencies—including other impact statements." (*supra,* p. 836).

It would be neither reasonable nor practicable to require the Staff or this Board to evaluate in detail the totality of material generated by ERDA during many months or years of work in preparing its LMFBR impact statement.[18] However, we believe that a limited review is required under the NRC's responsibilities in accordance with NEPA. An independent judgment should be exercised as to the rational basis and support for the programmatic statement to determine whether and to what extent NRC should rely on the overall environmental analysis issued by ERDA. Since this question arises in the context of the pleadings, no more precise delineation of the scope of independent review can be made at this time.

Contention 10 puts in issue certain alternatives to the CRBR that it is alleged should have been analyzed in the Applicants' Environmental Report (ER). Contention 11 challenges the LMFBR analysis of the need for and benefits

[18] *Union of Concerned Scientists* v. *AEC,* 499 F.2d 1069, 1077 (CA DC, 1974).

to be derived from the CRBR. For the reasons set forth, it is held that Contentions 10 and 11 are admissible under 10 CFR §2.714. Contention 13 asserts generally that the project cannot be justified on cost-benefit grounds, because the benefits do not exceed the costs. However, Contention 13 is too general and fails to set forth with particularity the basis for such contention with regard to each necessary aspect. It is noted that the substance of this contention is set forth with particularity in other contentions which have been held to be admissible. Accordingly, the admissibility of Contention 13 is denied as not being in conformance with the requirements of 10 CFR §2.714.

**Contention 12**

Intervenors NRDC, *et al.*, by proposed Contention 12 claim that construction of the CRBR plant should not be considered until certain fuel cycle problems have been resolved, namely, the problem of disposal of nuclear wastes, and the problem of control of plutonium and prevention of its diversion and release into the environment. Were this contention specifically limited to the control of wastes and of plutonium generated solely by the operation of the CRB Reactor, the Board would be faced with a more tightly circumscribed issue. However, the wording of the contention itself as well as the Intervenors' response (December 31, 1975) to the Applicants' Amended Answer to Petition to Intervene (November 17, 1975) indicate to the Board that Intervenors would delay the CRBR project until an ultimate resolution of these fuel cycle matters as generic, industry-wide issues is at hand. The disposal of wastes and the safeguarding of plutonium represent areas of existing concern already being given close scrutiny by the nuclear power industry and the Commission by virtue of nuclear power plants currently in operation. Thus, the operation of the CRB Reactor (if that is indeed the outcome of this proceeding) will neither initiate nor, of itself more than marginally aggravate these concerns. Likewise, such operation will not *per se* commit the nation to the commercial deployment of breeders and to a mixed-oxide or a plutonium fuel economy. Such commitments can only be made when these and many other currently unresolved matters show promise of satisfactory resolution. To stay the construction of the CRB Reactor until after the resolution of these two matters, already generic to existing plants (and not of sufficient gravity and urgency to have required their shutdown) appears to the Board to be unjustified. Nor do Intervenors show how the public interest would be served by a deferral of construction. Hence, the Board denies admissibility of Contention 12 in the broad scope proposed. To the extent, however, that these fuel cycle considerations raise concerns specific to the location or mode of operation proposed for the CRBR facility itself, the Board considers them to be proper issues for this proceeding, and accordingly admits Contention 12 for such purpose.

### Contentions 14 and 15

Contentions 14 and 15 were filed by NRDC subsequent to its original intervention petition, and have been held admissible by prior orders of the Board. We adhere to our previous rulings and admit Contentions 14 and 15.

## II. CONTENTIONS OF OTHER INTERVENORS

### State of Tennessee

A motion for leave to amend petition to intervene was filed by the State of Tennessee on March 12, 1976. Such amendment puts in issue the ER and DES discussion of the impact of the CRBR construction force in the State's educational system. Such contentions are allowed under the factors enumerated in 10 CFR §2.714(a), and are held to be admissible. In addition, the Board hereby approves a stipulation regarding the withdrawal of all other contentions upon certain conditions by the State of Tennessee, concurred in by the Applicants and the Staff at the special prehearing conference on March 22-23, 1976.

### Roane County, Tennessee

A motion for leave to amend its petition to intervene was filed by Roane County, Tennessee, on August 29, 1975. The amended petition alleges that the socio-economic impact of the CRBR on the area in which it is to be located has not been adequately assessed in the CRBR application. More particularly, the contention alleges that the impacts on schools and local services during construction of the CRBR have been understated in the Applicants' ER. This contention is viewed by the Board to be consistent with the terms of 10 CFR §2.714(a) and is held to be admissible.

### City of Oak Ridge, Tennessee

By its Memorandum and Order of March 4, 1976, this Board approved the amended petition to intervene filed by the City of Oak Ridge, Tennessee, on January 22, 1976, and admitted said City as a party to this proceeding. The amended petition regarding the socio-economic impacts of the construction and operation of the CRBR on the City of Oak Ridge, Tennessee, was admitted as a proper issue before the Board.

## III. DISCOVERY

The admissibility of all contentions now having been ruled upon, the Board

directs all parties to proceed accordingly with discovery. Those interrogatories previously deferred pending resolution of the admissibility of certain contentions are now to be answered consistent with the foregoing rulings on the construction and admissibility of contentions.

## IV. SCHEDULES

In its Special Prehearing Conference Order of October 9, 1975, the Board adopted a Hearing Schedule to govern the conduct of this proceeding. Upon request of the Applicants, the Staff, and Intervenors NRDC *et al* and without objection of the other parties, that portion only of said schedule dealing with environmental issues is revised to read as follows:

1. Twenty-one days from the issuance of the FES and SER will be the deadline for the service of final discovery requests by the parties.
2. The parties will serve answers to final discovery requests within fourteen days of such service.
3. Ten days after service of final discovery answers will be the deadline for all parties for the filing of summary disposition motions on contentions to be heard at the environmental and site suitability hearing.
4. The parties will serve answers to final summary disposition motions within ten days of such service.
5. A prehearing conference will be held two days after filing of answers to final summary disposition motions to hear arguments, if necessary, on any outstanding summary disposition motions, rule on any outstanding motions and to determine procedures and schedules for the evidentiary hearing.
6. All parties will file their direct testimony fourteen days prior to the commencement of the environmental and site suitability hearing.

IT IS SO ORDERED.

THE ATOMIC SAFETY AND
LICENSING BOARD

Marshall E. Miller, Chairman

Dated at Bethesda, Maryland,
this 6th day of April, 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-15

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
George C. Anderson
Lester Kornblith, Jr.

In the Matter of

Docket Nos. STN 50–483
STN 50–486

UNION ELECTRIC COMPANY

(Callaway Plant, Units 1 and 2)

April 8, 1976

Upon application for construction permits for Callaway Plant, Units 1 and 2, the Licensing Board issues its initial decision, making determinations of law and fact, and authorizing the issuance of construction permits for both units.

ATOMIC ENERGY ACT: SCOPE OF INFORMATION REQUIRED FOR LICENSING

As a prerequisite to licensing, an applicant is required by 10 CFR 50.33(f) to provide information to show that it possesses the funds necessary to cover "estimated" construction costs and related fuel cycle costs. While a firm fuel-supply contract might provide the best estimate of costs, there is no express requirement in the Commission rules that an applicant possess such a contract in order to receive a construction permit.

TECHNICAL ISSUES DISCUSSED: site meteorology; SNUPPS application

APPEARANCES

**Gerald Charnoff**, Esq., **Thomas A. Baxter**, Esq., **Joseph E. Birk**, Esq., **Charles E. Bremer**, Esq., on behalf of Union Electric Company, Applicant

**Dennis J. Tuchler**, Esq., **David J. Letvin**, Esq., on behalf of Coalition for the Environment, and Utility Consumers Council of Missouri, Joint Intervenors

**Dr. Vern R. Starks**, on his own behalf, Intervenor

**Leland B. Curtis, Esq., Michael K. McCabe, Esq., David L. Smith, Esq., Thomas Hughes, Esq., and W. R. England III, Esq.,** on behalf of the Missouri Public Service Commission

**Lawrence Brenner, Esq., Stuart A. Treby, Esq., Geoffrey P. Gitner, Esq., Gregory Lewis, Esq., and Auburn Mitchell, Esq.,** on behalf of the Regulatory Staff of the Nuclear Regulatory Commission

## INITIAL DECISION

## (Construction Permit)

### I. BACKGROUND

1. On August 8, 1975, the Atomic Safety and Licensing Board (Board) issued a Partial Initial Decision–Environmental and Site Suitability Determinations (NRCI-75/8, 319) in the captioned proceeding. The Board's determination, set forth in that decision, of the issues described in 10 CFR Part 51 and §50.10(e)(2)(ii), enabled the Director of Nuclear Reactor Regulation (Director) to grant the Union Electric Company's (Applicant) request for authority to conduct certain preconstruction permit activities described in 10 CFR §50.10(e)(1). On August 14, 1975 the Director granted Applicant authority to conduct such activities. This Initial Decision addresses the radiological health and safety aspects of the same application including the Board's ultimate resolution on the issuance of construction permits. The findings adopted and conclusions reached in the Partial Initial Decision are reaffirmed and incorporated herein except to the extent modified hereafter.

2. The general background of this proceeding is set forth in the Partial Initial Decision. The matters which the Board determined to be in controversy in this radiological health and safety phase of the proceeding were set forth in the Board's Special Prehearing Conference Order of February 19, 1975. Subsequently, however, on July 8, 1975 the Utility Consumers' Council of Missouri and the Coalition for the Environment St. Louis Region (Joint Intervenors) moved for amendment of their contention on financial qualifications and on August 12, 1975 asked that all other contentions concerning radiological health and safety matters be withdrawn. By an Order issued November 10, 1975, the Board granted Intervenors' Motion and acknowledged the withdrawal of all other contentions. As a result, the only matter in controversy in the radiological health and safety phase of this hearing is the Applicant's financial qualifications to design and construct the Callaway facility. The Board's findings on this matter are addressed in Section III, *infra.* On November 18, 1975 the Board issued an Order directing the resumption of evidentiary hearings in accordance

with the Act and the Rules of Practice and Regulations of the Commission for consideration of the aforementioned matters.

3. In an undated motion filed in September 1975, Joint Intervenors requested the Board to reassess the cost-benefit balance reached in the August 8, 1975, Partial Initial Decision, to reflect allegedly changed circumstances with respect to the estimates of fuel costs for the Callaway Plant. In its "Order Directing Presentation of Further Evidence Respecting Costs and Benefits for the Proposed Nuclear Facility at the Sessions of Hearings to Resume on Radiological Safety Considerations," dated November 10, 1975, the Board directed that such further evidence be presented at the hearings on radiological health and safety matters. The Board did not stay its earlier Partial Initial Decision. Our consideration of the additional evidence received with respect to fuel costs is set forth in Section IV of this decision.

4. An additional matter considered by the Board was the question of whether the potential lack of a long-term fuel contract, resulting from the stated position of the Westinghouse Corporation that it is excused from fully performing its obligation to supply uranium for the facility, required withholding of a construction permit. The views of Mr. Anderson and Mr. Kornblith are set forth in Section V, *infra.* The dissenting views of Mr. Jensch are set forth following the majority opinion.

5. The evidentiary hearing was convened on December 9, 1975 in Clayton, Missouri pursuant to the Notice of Hearing published August 30, 1974 (39 *Fed. Reg.* 31690). Thereafter, sessions were held on December 10 in Clayton, Missouri, and on December 11 and 12, 1975 and January 29, 1976, in St. Louis, Missouri. The record of the hearing includes the testimony of witnesses for Applicant, the Staff, and Joint Intervenors, and exhibits. A list of the exhibits offered by the parties and received into evidence by the Board in this portion of the hearing is set forth in Appendix A to this decision. The Public Service Commission of Missouri participated in the hearing as an interested State pursuant to the provisions of 10 CFR §2.715(c).

## II. FINDINGS OF FACT: RADIOLOGICAL HEALTH AND SAFETY ISSUES

### A. REVIEW OF THE APPLICATION BY THE REGULATORY STAFF

6. The Applicant filed its application for licenses to construct and operate the Callaway facility on June 21, 1974. The application was submitted and accepted for review under the Commission's standardization policy statement of March 5, 1973 (SER, §1.1). This policy permits a simultaneous review of the safety related parameters of a limited number of duplicate plants which are to be constructed within a limited time span at a multiplicity of sites (*Ibid*). The Applicant is one of five utilities who have joined together under the acronym

SNUPPS (Standard Nuclear Unit Power Plant System) to submit applications for a standard plant design for review under this policy (*Ibid*). The other utilities who have submitted such applications are Kansas Gas and Electric Company and Kansas City Power and Light Company, Northern States Power and Rochester Gas and Electric Corporation.

7. The Callaway Plant application includes a SNUPPS Preliminary Safety Analysis Report ("SNUPPS PSAR") (Exhibit #30), which describes those portions of the Callaway Plant which are standard to the SNUPPS plants, and a Callaway Plant Site Addendum to the SNUPPS PSAR (Exhibit #31), which sets forth the specific site and related design information, and applicant-related information for the plant. These documents contain comprehensive technical information relevant to radiological health and safety. In addition to a description of the site and the basis for its suitability, this information includes a description of the plant design; an analysis of the safety related structures, systems and components; analyses of postulated accidents and the engineered safety features provided to limit their potential effects; a summary of the Applicant's program for quality assurance; the Applicant's technical qualifications; the Applicant's financial qualifications; and considerations related to the common defense and security of the United States. The Board finds that this application and the PSAR, including the SNUPPS-PSAR and those portions of the Reference Safety Analysis Report (RESAR-3 Consolidated Version together with appropriate parts of Amendment 6 to RESAR-3) incorporated therein by reference, together with the testimony presented during the hearing, properly describe the facility in accordance with the Commission's regulations and the Notice of Hearing in the captioned matter.

8. The Staff performed an independent review of the information provided in the application and carried out its own analyses and investigation. On August 7, 1975, the Staff issued its Safety Evaluation Report (SER) (Following Tr. 2159) and subsequently, on November 21, 1975, issued Supplement 1 to the Safety Evaluation Report (Following Tr. 2159) which summarized the results of the Staff's evaluation of additional information submitted by the Applicants since the issuance of the SER. On January 23, 1976, the Staff issued Supplement 2. The Safety Evaluation and the Supplements thereto, delineate the results of the Staff's technical evaluation of the Callaway Plant design and the scope of technical matters considered by the Staff in its evaluation of the application. The Staff's evaluation addressed the radiological health and safety aspects of the proposed facility including site characteristics, reactor design, safety systems, quality assurance matters, conformance to general design criteria and Commission regulatory guides, financial qualifications and matters concerning the common defense and security of the United States. As a result of reviewing the information set forth in the application, the Staff concluded that the issuance of construction permits for the Callaway facility will not be inimical to

the public health and safety and the common defense and security of the United States. (SER and SER Supplement 1, §21.0).

9. Information concerning the radiological health and safety matters set forth in the application was also reviewed, independent of Staff action, by the Advisory Committee on Reactor Safeguards (ACRS) in accordance with the requirements of the Atomic Energy Act as amended, 42 USC Section 2232. The views of the ACRS were set forth in a letter dated September 17, 1975 to the Chairman of the Nuclear Regulatory Commission. The ACRS concluded that Units 1 and 2 of the Callaway Plant can be constructed with reasonable assurance that they can be operated without undue risk to the public health and safety if due consideration is given to certain matters which the ACRS believed could be resolved during construction. (*See* Appendix B to Supplement 1 of the SER). The Staff, in the second SER Supplement, has addressed the Committee's comments. In addition, the Board examined witnesses for the Staff and Applicant with respect to these comments (Tr. 2882-2914; Supplemental testimony of Schwoerer, following Tr. 3003).

10. The Board finds that the Applicant has adequately considered the radiological health and safety aspects of construction of the proposed facility and that the Staff's review and evaluation of the information set forth in the application is adequate.

## B. THE PLANT SITE

11. The Board in its Partial Initial Decision of August 8, 1975, made extensive findings of fact concerning the suitability of the proposed site for the Callaway facility (NRCI-75/8 at pp. 327 - 335). At that time, the Board concluded that based on the available information and the Staff's review to date, there was reasonable assurance that the proposed Callaway site is one which is suitable for nuclear power reactors of the general size and type proposed for Callaway from the standpoint of radiological health and safety. The Staff has further reviewed the characteristics of the Callaway site in light of the particular design proposed for the plant. On the basis of its further evaluation, the Staff concluded that these characteristics are acceptable (SER, §2.1).

12. The Board has reviewed its previous findings on site suitability in the light of the particular design of the Callaway plant and the further evidence adduced in the current phase of the hearings. The additional evidence includes the Applicant's description of the site (Exhibit 31, §2) and the results of the Staff's technical review of the site characteristics (SER and SER Supp., §2). The Staff reviewed the population density and use characteristics of the environs of the site, and the physical characteristics of the site, including seismology, meteorology, geology, and hydrology, to determine that these characteristics have been adequately described, that they have been given appropriate con-

sideration in the design of the Callaway plant, and that they conform to the Commission's reactor site criteria, 10 CFR Part 100, taking into consideration the facility design and proposed engineered safety features.

13. The Staff, in the course of its safety evaluation, received and evaluated reports from independent outside consultants concerning the potential for subsidence or collapse at the plant site which could be caused by postulated cavities hundreds of feet below the site. At the Board's request, Drs. Cording and Nieto, the Staff's consultants, testified with respect to their investigation and the support for the Staff's conclusion at SER Supp., §2.5.3. The Staff's consultants testified that a postulated cavern beneath the Callaway site would have to be in excess of one hundred feet in diameter to present a potential for subsidence (SER Supp., §2.5.3). The Staff's consultants further testified that there was a very low probability of the existence of such large caverns beneath the Callaway site (Tr. 2495, 2496). The Staff's consultants based their conclusions partially upon direct evidence from the Missouri Geological Survey (Tr. 2495). Based on its review and the independent analysis provided by its consultants, the Staff concluded that the potential for subsidence at the Callaway plant site is very remote and does not constitute a hazard to the proposed plant (SER Supplement, §2.5.3). The Board agrees and finds that the potential for subsidence at the Callaway site is remote and does not constitute a safety hazard. Further, the Board finds that the Callaway site is acceptable from the standpoint of its geological and seismological characteristics.

14. At the request of the Board, the Staff presented two witnesses, a Staff meteorologist and a consultant from the National Oceanic and Atmospheric Administration, to provide additional information on the Staff review of the site meteorology. Their testimony included identification of the meteorological data available, the methods used to evaluate the data, and the adequacy of the data. Although two years of meteorological data have been collected at the site, they testified that one year of hourly data would encompass all of the primary meteorological cycles and that the year-to-year variablity should be small because the annual amount of energy received from the sun, the driving force for atmospheric motions and stability, is relatively invariant. Whether or not that year of data is reasonably representative of expected long-term conditions at the site can be determined by a comparison between the site data and long-term data collected at nearby weather stations. When a second year of data at the site is available, these can be objectively compared to the first year by computing short-term relative concentrations for each of years. A small year-to-year difference between computed relative concentrations can be expected. This was done for the Callaway site and no meteorological or climatological conditions were identified that would indicate that diffusion calculations based on one year of on-site data are not reasonably representative of long-term conditions at the Callaway site. Analysis of the second year of data showed a 10% difference in

computed relative concentration values compared to the first year. The witnesses considered this difference to be small (they thought that the values over the long-term might vary up to 30 or 40 percent) and concluded that the second year of on-site data confirms that the first year of data collected at the Callaway site is reasonably representative of the long-term conditions to be expected (Tr. 3139-3179).

15. The Staff and the Applicant evaluated the responses of the Callaway facility to various potential accident conditions including a full spectrum of plant conditions (SER, §15.1). The spectrum of accident conditions evaluated included all design basis accidents such as the loss-of-coolant accident, steamline break accident, steam generator tube rupture, fuel handling accident, rupture of a radioactive gas storage tank in the gaseous radioactive waste treatment system, and control rod ejection accident, as required by Commission regulations. The Staff determined that the calculated potential offsite dose which would result from the occurrence of such accidents would be within the Commission's guidelines concerning site suitability set forth in 10 CFR Part 100 (SER and SER Supp., §15).

16. Based on the findings set forth in our earlier decision and the additional evidence adduced at the current hearing sessions, the Board finds that the Callaway facility can be constructed and operated at the location proposed without causing undue risk to the public health and safety.

## C. DESIGN OF THE FACILITY

17. The Applicant has described in detail in its PSAR proposed design of the Callaway facility and the Staff has provided a summary description in the SER. Two 4-loop pressurized water reactor nuclear steam supply systems will be utilized at the Callaway plant. Each will have a core power level of 3411 MWT. Uranium dioxide pellets enclosed in Zircaloy tubes with welded-end plugs will be assembled into 17x17 elements to comprise the reactor core. The reactor core, which will utilize water both as a moderator and a coolant, will initially consist of three regions each containing fuel of a different enrichment of uranium-235. The reactor coolant pressure will be established and maintained by an electrically heated pressurizer which will also provide a surge chamber and a water reserve to accommodate reactor coolant volume changes during operation. After being heated by the core, the water will flow through four steam generators where its heat will be transferred to the secondary system. The water will then flow back to the pumps and the cycle will be repeated. The heat energy transferred into the secondary system will be used in the form of steam to drive a steam turbine and generator to produce electrical energy. Control rod movement and regulation of the boric acid concentration in the reactor coolant will control the operation of each of the reactors. A reactor protection system that automatically initiates appropriate action whenever a condition monitored by the system

approaches pre-established limits will be provided. This system will act to shut down the reactor, close isolation valves, and initiate operation of the engineered safety features should any or all of these actions be required (SER, §1.2).

18. A containment structure will house the nuclear steam supply system for each of the Callaway units. These structures will be designed so as to confine safely, within the leakage limit of the containment, the radioactive material that could be released in the event of an accident. Components of engineered safety features and various related auxiliary system will be housed in an auxiliary building adjacent to the containment structure for each unit. The fuel handling buildings, which will also be located adjacent to each containment structure, will each house a spent fuel pool and a facility for the storage of new fuel. The radioactive waste treatment systems will be housed in the radwaste building (*Ibid.*).

19. The Staff and the Applicant have evaluated the postulated effects of forces imposed by several conceivable environmental hazards. These hazards include the safe shutdown earthquake, the design basis wind, the design basis tornado, and missiles generated from within the Callaway facility but outside of containment. The Staff has determined that all structures, systems and components important to safety that must be designed to withstand the effects of a safe shutdown earthquake and remain functional have been classified properly as seismic category 1 items. These items will be designed to withstand the effects of forces imposed by a safe shutdown earthquake. Moreover, the design wind velocity and design basis tornado have also been adequately determined and all seismic category 1 structures that will be exposed to these forces will be designed to withstand the effects of such forces. The Staff has concluded that the engineering design can reasonably assure that the seismic category 1 structures will withstand such environmental forces (SER and SER Supp., §3). The Board concurs in this conclusion.

20. The Staff also reviewed the Applicant's procedures for determination of the loadings on seismic category 1 structures induced by the design flood or highest ground water level specified for the Callaway plant. The Staff concluded that these procedures are acceptable in that they provide a conservative basis for engineering design to assure that the structures will withstand such environmental forces. The Board concurs in this conclusion. Moreover, the information provided by the Applicant and the Staff's review thereof also provides reasonable assurance that the forces associated with missiles generated from internal sources and from outside of containment will not cause or increase the severity of any accident (SER, §3).

21. On the basis of these determinations the Staff has concluded that the proposed Callaway facility can be designed, constructed, and operated to meet the requirements of the General Design Criteria set forth in 10 CFR Part 50, Appendix A of the Commission's regulations (SER, §3.1).

22. Several engineered safety features have also been included in the design of the Callaway facility. The objective of these features is to provide sufficient redundancy to overcome the effects of single failure of any component or system and to prevent the loss of capability to achieve safe shutdown of the reactor. In order to be effective, these systems will be designed as seismic category 1 systems and are required to function even with complete loss of offsite power (SER, §6.1).

23. A steel-lined, pre-stressed, post-tensioned, concrete containment structure is one of the engineered safety features which has been included in the Callaway plant design. The design of this structure is such that it will safety confine the radioactive material that could be relased in the event of an accident. In the event of an accidental coolant release, a containment spray system will operate to provide borated water containing sodium hydroxide to remove heat and radioactive iodine. A containment ventilation system, consisting of four fan coolers located within the containment structure, will be used during normal plant operation. During accident conditions the containment fan coolers can maintain the containment pressure below the containment design pressure even in the event of a single active failure in either the spray system or the fan cooling system (SER, §1.2).

24. The emergency core cooling system is another engineered safety feature. This system has been designed to provide emergency core cooling during postulated accident conditions in which it has been assumed that mechanical failures have occurred in the reactor coolant system piping with a resulting loss of coolant from the reactor vessel greater than the available coolant makeup capacity using normal operating equipment. The ECCS in combination with the containment, containment cooling system and auxiliary feedwater system, will also be designed to protect against the consequences of a steamline break (SER, §6.3). The Staff has reviewed the information provided by the Applicant in this connection and has concluded that the ECCS for Callaway complies with the final acceptance criteria for such systems described in 10 CFR Section 50.46 (SER and SER Supp., §11).

25. The separate radioactive waste systems for the two units and the common offsite radiological monitoring system have been described by the Applicant and the estimated doses from anticipated releases of effluents have been calculated by the Applicant (Exhibits 30 and 31, §11). The Staff has also evaluated these systems and the resultant radiation exposures (SER and Supplements, §11). The Staff's initial assessment was performed to determine conformance with the design objectives of "Concluding Statement of Position of the Regulatory Staff," Docket No. RM-50-2, dated February 20, 1974 (SER, §11). At the time of issuance of the SER, the Staff concluded that the systems met those objectives, but was in the course of making a new assessment against the later requirements of Appendix I to 10 CFR Part 50, which had become effec-

tive on June 4, 1975. At the same time, the Staff was reassessing the parameters and mathematical models used in calculating releases of radioactive materials in effluents pursuant to the requirements of Appendix I (SER, §11). On September 4, 1975, the Commission amended Appendix I to allow an optional method of compliance (subsequently accepted by Applicant) which provided for compliance without a required cost-benefit analysis if the radioactive waste management system met the guidelines of the abovementioned "Concluding Statement." At the time of issuance of the SER Supplement 1 (November 21, 1975), the Staff had completed its reassessment of the parameters and mathematical models used and had requested and received from the Applicant additional information needed to reassess the systems against the new parameters and mathematical models, but had not yet completed its review of that information. (Supp. 1, §11). During January 1976 the Applicant revised its waste management systems to include certain additional equipment, as described in Revision 14 to the SNUPPS PSAR, dated January 14, 1976. The Staff reported, in SER Supplement 2, dated January 23, 1976, and in the prepared testimony of two witnesses (Tr. 3184-3185) on its review of the revision and on its evaluation of the revised systems with respect to Appendix I. The Staff's evaluation of the proposed liquid and gaseous radioactive waste management systems showed them to be capable of meeting the criteria given in Appendix I of 10 CFR Part 50 for keeping releases of radioactive materials to the environment "as low as is reasonably achievable," and, accordingly, the Staff found the proposed systems to be acceptable.

26. The Staff has also evaluated Applicant's radiation protection program (Exhibits 30 and 31, §11). The review covered Applicant's radiation protection design features, including shielding and the layout of the facility, the area monitoring program, which details radiological and airborne radioactivity monitoring features, the ventilation systems which will be designed to provide a suitable radiological environment, and the health physics program. This review has shown that occupational radiation exposures can be controlled to meet the requirements of 10 CFR Parts 20 and 50 (SER, §12).

## D. THE APPLICANT'S TECHNICAL QUALIFICATIONS AND QUALITY ASSURANCE PROGRAM

27. The Applicant is one of five utilities which have joined to form a SNUPPS Project Organization for the purpose of the management of design and procurement of the standard portions of the individual SNUPPS plants. Management of engineering activities related to the Callaway plant will be administered by the Applicant's Nuclear Engineering Department. The manager of nuclear engineering reports to the Vice President-Engineering and Construction who is responsible for direction of all activities which involve engineering, construction,

testing and preparation of the Callaway facility for commercial operation (SER, §13.1; Exhibits 30 and 31, §§1.4.1, 13.1). The nature of the SNUPPS organization makes available to the Applicant the operational experience and expertise of the other four SNUPPS utilities, in addition to the Applicant's own expertise in this area (Tr. 2978-2980).

28. The SNUPPS organization will also assist the Applicant in the design, construction and operation of the Callaway facility. The SNUPPS project organization has retained the Bechtel Power Corporation to provide architect-engineer services for the standard portions of the SNUPPS plants. Bechtel has also been retained to design those site-related seismic category 1 structures which are outside of the scope of the standard plant design for the Callaway plant. Moreover, the Westinghouse Electric Corporation has been retained to design, manufacture and deliver the nuclear steam supply system to the Callaway site. Additionally, Applicant has retained another architect-engineer organization, Sverdrup and Parcel and Associates, Inc., for technical and engineering services for those non-seismic category 1 portions of the facility not included in the standard portion of the Callaway plant (SER, §1.4; Exhibits 30 and 31, §1.4).

29. On the basis of its review, the Staff concluded that the Applicant is technically qualified to design and construct the Callaway facility (SER, Section 21). The Board concurs in this conclusion and finds the Applicant so qualified.

30. The Staff reviewed and evaluated the Applicant's program for quality assurance. The Staff's evaluation is based upon its review of the information presented in the Applicant's PSAR and detailed discussions with the Applicant and the SNUPPS Project Organization to determine compliance on the part of the Applicant, the SNUPPS Project Organization and the principal contractors involved with the requirements of Appendix B to 10 CFR Part 50 (SER, §17.1).

31. The SNUPPS Quality Assurance ("QA") Committee, consisting of one QA representative from each SNUPPS utility, develops the QA manual of procedures, reviews and approves Bechtel and Westinghouse QA programs and verifies their adequacy for the project, provides formal audits of the SNUPPS Project Organization, and evaluates the effectiveness of the QA program implementation. The SNUPPS Executive Director is responsible for the implementation of the QA program of the SNUPPS Project Organization through the QA Manager. The organizational level of the QA Manager provides him with adequate independence and he reports to a sufficiently high management level to accomplish his objectives. The QA manager implements the SNUPPS Project Organization QA Program through his staff. Each member of the QA Committee can initiate stop work action concerning activities managed by the SNUPPS Project Organization through the Executive Director. Additionally, the QA manager has stop work authority over the SNUPPS Project Organization staff and activities and can initiate stop work action for Bechtel activities through the Executive Director. The Staff in its review of the QA

program determined that (1) the QA organizations for the SNUPPS Project Organization are sufficiently independent of the organizations whose work they assure; (2) they have clearly defined authorities and responsibilities; (3) they have adequately defined personnel qualifications; (4) they are organized so that they can identify QA problems in the SNUPPS Project Organization as well as in the principal contract organizations; (5) they can initiate, recommend, or provide solutions; and (6) they can verify implementation of solutions (SER, §17.2). Upon this basis, the Staff concluded and the Board finds that the quality assurance program for the SNUPPS Project Organization complies with Appendix B of 10 CFR Part 50 and is acceptable.

32. The Applicant will have direct control over construction activities at the Callaway site. The Applicant's Executive Vice President is responsible to the President for quality assurance, engineering, construction and operation of the Callaway plant. The QA manager is responsible for directing the QA program. He is responsible to the Vice President-Engineering and Construction, who in turn is responsible to the Executive Vice President. The Staff has reviewed the Applicant's program for quality assurance and found that it has clearly defined responsibilities and authority for the QA organization. Moreover, the Staff determined that the Applicant's provisions for implementing its QA program, which includes corporate level management involvement, authority from the Vice President to enforce QA requirements, and QA stop work authority, are acceptable. Based upon its evaluation of the Applicant's QA organization, the Staff determined that: it is sufficiently independent of the organizations whose work it verifies; it has adequately defined qualification and training requirements for its staff; it is so organized that it can identify QA problems in other organizations performing QA related work; it can initiate, recommend or provide solutions; and it can verify implementation of solutions (SER, §17.5). Therefore, the Staff concluded and the Board finds that the Applicant's organization for quality assurance functions complies with the requirements of Appendix B to 10 CFR Part 50 and is acceptable.

33. The Staff has also evaluated the QA programs of Bechtel Power Corporation (architect-engineer for the standard plant), Westinghouse Electric Corporation (supplier of the nuclear steam supply system), and Daniel International Corporation (construction contractor), and has found those programs to be in compliance with Appendix B to 10 CFR Part 50 (SER, §§17.3, 17.4, 17.6). The Board concurs in these findings.

34. A nuclear reactor inspector from the Commission's Office of Inspection and Enforcement testified during the hearing as to the results of inspections personally performed by him and by others in which the implementation of the QA programs for the Callaway plant was examined (Tr. 2836-2870). He further testified that, subject to the satisfactory correction of several deficiencies that he identified, he had concluded that implementation of the Callaway Plant QA

programs was consistent with and satisfactory for the status of the project. At the hearing session of January 29, 1976, an affidavit was received from the witness attesting to the satisfactory correction of the deficiencies (Exhibit 46). In addition, the affidavit described the inspections of Svedrup and Parcel and Associates (site architect-engineer) and the satisfactory resolution of all deficiencies in its quality assurance program.

35. The Board finds that the Callaway Plant QA programs are in compliance with the requirements of Appendix B to 10 CFR Part 50 and further that they are adequate for the design, procurement and construction of the Callaway plant.

## E. CONDUCT OF OPERATIONS

36. The proposed station organization will consist of a technical staff of approximately 145 persons for two unit operation. This technical staff will be under the direction of a plant superintendent and an assistant plant superintendent, one of whom will hold a senior operator license. A superintendent of operations, a superintendent of technical support, and a superintendent of maintenance responsible for plant maintenance, and a training director will report to the assistant plant superintendent. Shift crews composed of licensed operators and technical staff will also be provided. The Applicant's requirement for each job category used at the plant will conform to the minimum requirements of the American National Standards Institute Standard ANSI N18.1, 1971 (Selection and Training of Personnel for Nuclear Power Plants.). A training program will be established to provide plant personnel with sufficient knowledge and operating experience to start up, operate, and maintain the plant in a safe and efficient manner. The training program will include the use of a full-scale simulator control room which will be built for the SNUPPS plants (Tr. 2987). Technical support for the plant staff will be provided by a general office staff of technical specialists maintained by Applicant's Power Operations Group with additional assistance available from its Engineering and Construction Group (SER §§13.1, 13.2).

37. All plant operations are to be performed in accordance with written and approved operating and emergency procedures. These will be prepared in accordance with the guidance in American National Standards Institute Standard ANSI N18.7, 1972 (Administrative Controls for Nuclear Power Plants). Preliminary plans for review and audit of plant operations generally meet the provisions of that Standard. The Applicant has also agreed to keep plant records in conformance with the standard, as well as with Criterion XVII of 10 CFR Part 50, Appendix B (SER, §13.4).

38. The Staff has concluded that the Applicant has established an acceptable technical organization for implementation of its responsibilities for the

design and construction of the Callaway plant, that the proposed plant organization, the proposed qualifications of personnel, and the proposed plans for offsite technical support satisfy the requirements of Regulatory Guide 1.8 (Personnel Selection and Training) and are sufficient to provide acceptable staff and technical support for the operation of the plant, and that the Applicant's proposed plans for preparation, review, approval and use of written procedures and for documentation of operating and maintenance activities are acceptable (SER, §§13.1, 13.2, 13.3).

39. The initial test programs for the Callaway plant will be conducted by Applicant with technical support from the nuclear steam supply system vendor, the architect-engineer, the construction contractor and other vendors. In general, preoperational testing will be completed prior to fuel loading. As the construction of individual systems is completed, preoperational tests are performed to verify, as nearly as possible, the performance of the system under actual operating conditions. Fuel loading begins when all prerequisite system tests and operations are satisfactorily completed. While Applicant will provide additional details of its testing program at the operating license stage, the Staff has concluded that an acceptable test and startup program will be implemented by Applicant (SER, §14; Exhibits 30 and 31, §14).

40. The Board also examined the Applicant's Vice President-Engineering and Construction to obtain the views and plans of top management regarding design, construction and operation of the Callaway plant, particularly with respect to top management responsibility and participation (Tr. 2985-3002).

41. On the basis of the evidence in the record, the Board finds that the Applicant's preliminary plans for the conduct of operations are adequate for this stage of the Callaway Plant project.

## F. EMERGENCY PLAN

42. The Applicant's preliminary plans for coping with emergencies include the establishment of an emergency organization which will consist of both on-site and off-site Union Electric Company personnel as well as various public and private agencies. The Applicant has identified the notification responsibilities within the organization to assure prompt and effective communication between interfacing groups. In the State of Missouri the Office of the Adjutant General has been identified as the organization having primary responsibility for radiological emergency planning. Formal training and periodic drills to familiarize plant personnel with the contents and requirements of the emergency plan, site evacuation procedures, and other emergency activities are included within the Applicant's training program. The Applicant will also provide training assistance to such outside agencies as the police department, the fire department, hospital personnel, and ambulance drivers whose services may be required in

emergency situations. Additionally, these organizations will participate in periodic emergency drill excercises (SER, §13.3).

43. The on-site emergency control center will be the plant control room which has been designed for continuous occupancy during the course of an accident. Two off-site control centers will be established in opposite directions from the plant site. The plant emergency facilities will include first aid and decontamination facilities for the treatment of contaminated personnel. The Applicant has made initial contact with four ambulance services for emergency transportation assistance and with five area hospitals for off-site emergency treatment of individuals. The various plant features to assure evacuation capability include radiation emergency alarms, site evacuation alarms, adequate communications systems and sufficient evacuation routes. The Staff has performed analyses to confirm the practicability of evacuation of the Callaway plant environs, as an emergency measure, and has determined that appropriate criteria have been identified to permit design of an acceptable evacuation plan. The Staff has concluded that the Applicant has established emergency plans which meet the requirements of Part II of Appendix E to 10 CFR Part 50 and that the Applicant's emergency program is consistent with facility design features, analysis of postulated accidents and characteristics of the proposed site location, and provides reasonable assurance that appropriate protective measures can be taken within and beyond the site boundary in the event of a serious accident (SER, §13.3).The Board concurs in this conclusion and finds that the Applicant has established adequate emergency planning programs for this stage of the Callaway project.

## G. COMMON DEFENSE AND SECURITY

44. The information provided in the application shows that the activities that will be conducted under the permits and licenses applied for by Applicant will be within the jurisdiction of the United States. Moreover, all of the directors and principal officers of the Applicant are citizens of the United States and the Applicant is not owned, dominated or controlled by an alien, foreign corporation or foreign government. The activities which will be conducted do not involve any restricted data, but the Applicant has agreed to safeguard any such data that might become involved as required by 10 CFR Part 50. The Applicant will obtain its fuel from sources of supply available for civilian purposes, so that no diversion of special nuclear material from military purposes is contemplated. Upon this basis, the Staff concluded (SER, §19) and the Board finds that the activities to be performed will not be inimical to the common defense and security of the United States.

## H. INDUSTRIAL SECURITY

45. The Applicant has provided a general description of plans for protecting the Callaway Plant against potential acts of industrial sabotage. This description includes provisions for the screening of employees at the plant, and for design phase review of plant layout and protection of vital equipment in conformance with Regulatory Guide 1.17, "Protection of Nuclear Power Plants Against Industrial Sabotage." The Staff concluded and the Board finds that the Applicant's preliminary plans for protection of the plant against acts of industrial sabotage are therefore acceptable. Additional details of these plans will be provided at the operating license stage of review (SER, §13.5).

## I. RESEARCH AND DEVELOPMENT

46. The nuclear steam supply systems are similar to other large pressurized water reactors now being designed and built by Westinghouse for plants being constructed under Commission construction permits. The Applicant, the ACRS, and the Staff have identified certain on-going investigations to confirm and finalize the design of certain of the plant systems, which include generic design features. These investigations include:

a. 17 x 17 fuel design;
b. Reactor pressure vessel support system;
c. Prevention of turbine missiles; and
d. Environmental and seismic qualification of Class 1-E electrical equipment.

47. The Staff has concluded (SER, §1.7) and the Board finds that the Applicant has identified and will perform development tests necessary for verification of the design and safe operation of the Callaway Plant on a timely schedule. Moreover, if the results of any of this research and development work are not successful, appropriate alternate actions, or restrictions on operation can be imposed to protect the public and safety (*Ibid.*).

## III. MATTER IN CONTROVERSY–FINANCIAL QUALIFICATIONS OF THE APPLICANT

48. The determination of whether or not the Applicant is financially qualified to construct and operate the proposed facility is one of the issues set forth by the Commission for our consideration and decision. The only remaining matter in controversy deals with the same subject. The contention, which is set forth in full in Paragraph 61, asserts that, for a number of specified reasons, the Applicant is not financially capable of constructing and operating the proposed Callaway facility. In this section of our decision we will deal first with the

evidence and our findings on the financial qualifications of the Applicant, in general, to construct and operate the facility. Next we consider and rule upon the specific contentions, and finally we will consider the proposed findings of the Joint Intervenors, submitted in January, all of which are directed to this issue.

49. In preparing its Safety Evaluation Report, the Staff performed an analysis of the financial qualifications of the Applicant to determine whether there is reasonable assurance that the Applicant can obtain the necessary funds to cover estimated construction costs and related fuel cycle costs for the Callaway facility as required by the Commission's regulations (10 CFR Part 50, Appendix C and Section 50.33(f)).The Staff's approach focuses primarily on the reasonableness of the Applicant's projected system-wide financing plan and its underlying assumptions (Testimony of Richard Cioni following Tr. 2715 (hereafter Cioni Testimony) at 1).

50. In performing its evaluation, the Staff considered extensive financial information which was provided by the Applicant concerning Union Electric's revenues, the magnitude of its construction program and potential sources of funds (SER Supp. 1, §20).By agreement among the parties, only one version of the sources of fund statement provided by the Applicant was published in the Staff's Safety Evaluation Report Supplement (SER Supp. 1, Appendix E).Due to potential complications caused by regulations of the Securities and Exchange Commission, another version of the sources of fund statement, considered by the Applicant to be proprietary was withheld from public disclosure. The Staff in its evaluation, however, considered both the proprietary and non-proprietary versions of the sources of fund statement (SER Supp. 1, §20).Joint Intervenor's witness stated that he considered the use of a source of fund statement, such as that provided by the Applicant, prudent in the development of a financial plan for the construction of a facility such as Callaway (Tr. 2446).

51. As a result of its evaluation, the Staff concluded that the Applicant is financially qualified to design and construct the Callaway Plant (SER Supp. 1, §20). Joint Intervenors, however, assert that funds to meet these costs are not obtainable. Two points are essential to the Board's resolution of this issue: (1) construction and related fuel costs which will be necessitated by the Callaway project and (2) the reasonableness of Applicant's assertion that these funds are obtainable.

52. The Applicant estimated the cost of the Callaway facility including the nuclear fuel inventory cost for the first core and transmission, distribution and general plant cost to be 1,862.6 million dollars (SER Supp. 1, §20.2). The Staff compared this estimate against a costing model developed by the Energy Research and Development Administration. The Applicant's cost estimate is approximately 5.8 percent above the estimate derived from the costing model (*Ibid.*). Upon this basis, the Staff concluded and the Board finds it is reasonable to use the Applicant's estimate.

53. The Applicant plans to finance the Callaway Plant by the use of internally generated funds, notes payable, and the issuance of debt and equity securities. Available funds from these sources in 1974 totaled 228.8 million dollars and were derived from 42.5 million dollars of internally generated funds, 77 million dollars of first mortgage bonds, 16.5 million dollars of environmental improvement revenue bonds, 77.4 million dollars in preferred and common stock, and a 15.4 million dollar increase in notes payable and other funds. As a result of its evaluation, the Staff determined that the financing projections of the Applicant could be characterized as a reasonable financing plan. Moreover, assuming rational regulatory policies and relatively stable capital market conditions, the Applicant has reasonable assurance of obtaining the funds necessary for construction of the Callaway Plant (*Ibid.*). Joint Intervenors, however, challenge both of these assumptions.

54. Joint Intervenors contend that it is no longer as probable as it was that the Missouri Public Service Commission will grant the Applicant needed rate increases. However, the Missouri PSC is obligated to grant just and reasonable rates so that safe and adequate service might be rendered and the setting of such rates is tantamount to allowing a company a reasonable opportunity to earn a fair return on its investiment (Cioni Testimony at 2). The Staff and Applicant aver that the considerable rate case activity, both currently and in the recent past, demonstrate the more favorable regulatory climate for utilities such as the Applicant (Cioni Testimony at 2 and 3). The Applicant's retail rates are regulated by the Public Service Commission of Missouri, the Illinois Commerce Commission, and the Iowa State Commerce Commission (Testimony of William E. Cornelius following Tr. 2597 (hereafter Cornelius Testimony) at 22).

55. The Illinois Commerce Commission authorized in 1974 a 13.5 percent increase in Applicant's rates (6.4 million dollars). The Applicant now has pending with that Commission a requested rate increase of 24.4 percent (15 million dollars) based upon a test year ending December 31, 1975 (*Ibid.*).

56. The Iowa State Commerce Commission in 1974 authorized a rate increase of approximately 21.6 percent (2.1 million dollars) for the Applicant. On February 20, 1975 the same Commission allowed proposed rate increases of approximately 10.4 percent (1.2 million dollars) to become effective subject to refund based upon the outcome of the proceeding (*Ibid.*).

57. In 1974 the Missouri Public Service Commission authorized a 13.8 percent (39.9 million dollars) increase in Applicant's rates and in 1975 the same Commission issued a report and order approving rate increases for the Applicant of 50.9 million dollars effective January 2, 1976 (*Ibid.*).

58. The Board is of the view that the weight to be attached to such rate case activity is enhanced by efforts of these Public Service Commissions to achieve regulatory reforms designed to overcome problems of regulatory lag and high inflation. These regulatory reforms contribute to a more favorable investment climate for public utilities such as the Applicant. Moreover, they represent a

more realistic approach to rate regulation and constitute a major step toward minimizing the effects of regulatory lag (SER Supp. 1, §20.3). For instance, the use of a forward-looking test year, which has recently been adopted, acts to establish rates on the basis of the capital employed and the expenses anticipated during the period the rates are to be in effect (Cornelius Testimony at 24; Cioni Testimony at 3).

59. Another effort at regulatory reform which is significant is the inclusion of construction work in progress (CWIP) in the rate base. Joint Intervenors contend that increases in the allowance for funds used during construction (AFDC) will adversely affect the Applicant's ability to finance the Callaway project. While it is true that the investment community generally views AFDC as a lower quality of earnings than that generated by operating plants, several regulatory commissions have recently allowed construction work in progress in the rate base during rate proceedings. Indeed, in the recent rate decision of the Missouri Public Service Commission (Cases No. 18,314 and 18,527), the Applicant received its requested rate increases as well as a favorable decision upon the inclusion of construction work in progress within the rate base.[1] A witness for the Applicant who is considered to be an eminent authority in the field of public utility finance and whose writings were cited by Joint Intervenors' witness, testified that he believed the investment community would view such a regulatory reform favorably (Tr. 2928).

60. The Board therefore finds no basis upon which to assert that the Applicant's prospects for obtaining the necessary rate relief are unfavorable and finds that Applicant's and Staff's assumptions that such relief will generally be granted by the public service commissions in which the Applicant does business are reasonable. With respect to the continuing availability to the Applicant of a continuing stable market, the Joint Intervenors principal points are dealt with below in connection with the specific contentions.

61. The specific contention stipulated to by the parties is as follows:

III. Applicant is not financially capable of constructing and operating the proposed Callaway facility as projected, in that

A. Money to be used to pay for the construction of the proposed Callaway

[1] The Public Service Commission of Missouri, in a Report and Order dated December 22, 1975 (Exhibit 44), approved Applicant's request to include in the rate base CWIP representing expenditures through December 31, 1975, on the Callaway Plant. As a result, Applicant will discontinue capitalizing AFDC on the CWIP included in the rate base. The inclusion of CWIP in the rate base will allow Applicant to generate more funds internally and thereby reduce its reliance upon external financing. If continued over the period of Callaway Plant construction, the inclusion of CWIP in the rate base could increase Applicant's internal cash generation by up to approximately $275 million. Tr. 3129, 3130.

facility will be raised only by a substantial amount of borrowing, and large sales of common stock.

1. An increase of shares of common stock which is projected will require that a large portion of common shares sold will be sold for less than book value.
2. The sale of debentures will make increasingly difficult the maintenance of required ratios between debentures, common shares and preferred shares.
3. Long term borrowing may be curtailed by the inadequacy of the ratio between after-tax earnings and total fixed charges provided for in present indentures.
4. Short term borrowing for current bills during construction will be limited by the ability of Applicant to sell stock, and to acquire long-term loans. Applicant has already suffered limitations on its short term borrowing.
5. Applicant's borrowing will also be limited by the reduction in its rating from AA to A by Moody's and Standard & Poor. Among the reasons given for the reduction of ratings was that the projected Callaway facility put too great a strain on Applicant's financial resources.
6. The unprecedented demand for capital projected over the years by industry, especially energy and utilities, United States Treasury, United States government agencies, and state and local government both increase the price and reduce the availability of capital, making it unlikely that relatively poor risks, such as Applicant, will be able to make either long or short-term borrowings in sufficient amounts to finance the projected facility.
7. The increase in allowance for construction as a proportion of total earnings will limit the sale of stock and of debentures. Allowance for construction, which is a fictitious account regarding assumed return to the plant under construction—were it operating—will inflate earnings reported to shareholders to a far greater extent than they will provide a basis for borrowing or computing required ratios. In 1974, it was reported that $1.37 was earned per share. Less allowance for construction, the amount is more properly $.94 per share.

B. Amounts needed for completion are not provided by the Applicant since no adequate account is taken of probable overruns.

C. Applicant's financial weakness is illustrated by the low quality of its earnings after taxes, as compared to other electric utilities, and Applicant paid very low taxes when compared to other electric utilities.

D. Depreciation accounted for by Applicant is not adequate to replace Callaway Plants 1 and 2.

E. It is no longer as probable as it was that Missouri Public Service Commission will give the rate increases needed by the Applicant to remain in a reasonably healthy condition, whatever its financial ventures.

62. Contention III A identifies in its several subsections the reasons why Joint Intervenors believe the substantial amount of borrowing and the large sales of common stock necessary to raise the money needed for construction of the facility cannot be accomplished. The fact that such borrowing and sales will be necessary is not disputed. The electric utility industry is one of the most capital intensive in the United States and requires $4 of investment to produce $1 of revenues. Consequently, utilities must continually tap the money and capital markets for the funds needed to build the power plants to safety and adequately service their customers (Cioni Testimony at 4). This in itself does not lead to a conclusion that the Applicant will be unable to finance the project. We must look at each of the individual parts of the contention.

63. Intervenors contend that a large portion of the common shares Applicant will offer in financing the Callaway project will be sold for less than book value. Intervenors did not demonstrate by any of their evidence the manner in which this problem would impair the Applicant's capability to finance the Callaway project. While Applicant's common stock is presently slightly below book value, its ratio of market price to book value has recently increased and is anticipated by both the Applicant and the Staff to average at or above book value during the period of construction of the Callaway Plant (Cioni Testimony at 4). The Board finds on this point that there is no basis to conclude that the Applicant's ability to sell common stock will be impaired.

64. Another basis upon which the Intervenor challenged the Applicant's financial capability was the difficulty Intervenor asserted the Applicant would encounter in an effort to maintain responsible capitalization ratios. Intervenors do not assert, however, the manner in which this alleged difficulty will impair the Applicant's capability to finance the Callaway project. Moreover, there is no requirement that this Board is aware of that any specific ratio between debentures, common shares and preferred shares must be maintained by the Applicant as Intervenors apparently contend. The Board does not find any substantial evidence either that the proposed ratios cannot be maintained or that small deviations from the proposed ratios would significantly affect the Applicant's ability to finance the project.

65. Intervenors further allege that the Applicant's long term borrowing capability may be curtailed by its inability to meet indenture coverage requirements. The preponderance of the evidence, however, indicates that the required coverage can be maintained, assuming reasonable rate relief. The Joint Intervenors' apprehensions on this point might stem in part from the belief, as indicated in the contention, that this coverage requirement is based on after-tax earnings, whereas in fact it is based on income before taxes (Cornelius Testimony at 11).

66. Contention IIIA(4) asserts that short term borrowing will be limited by Applicant's inability to sell stock and bonds and that the Applicant has already suffered such limitations. The capability for selling long term securities is dealt with elsewhere. In regard to the second assertion, the Board can find no support in the record. On the contrary, Applicant's testimony indicates it has never been unable to carry out its normal short-term borrowing program (Cornelius Testimony at 13) and Joint Intervenors' testimony deals with projected future difficulties (Testimony of David Gottlieb following Tr. 2163 (hereafter Gottlieb Testimony) at 54-59).

67. With respect to Contention IIIA(5), that borrowing (presumably long-term) will be limited by a recent reduction in bond rating (from AA to A in January, 1974, and to A- in November, 1974, by Standard and Poor and from AA to A in February 1975 by Moody), witnesses for Applicant and Joint Intervenors agreed that the main impact of a lower rating is to increase the interest cost associated with the bonds (Cornelius Testimony at 12; Gottlieb Testimony at 25). Subsequent to the reduction in ratings, Applicant in March 1975 sold an issue of mortgage bonds at an interest rate of 10-1/2 percent (Tr. 2505-2506). Joint Intervenor's witness conceded that there was a good market for bonds rated at single A (Tr. 2326). The evidence, therefore, does not appear to the Board to substantiate the assertion that borrowing will be limited by the reduction in bond rating.

68. Another point upon which Intervenors challenge Applicant's financial capability is the "crowding out" theory. In Contention III (A)(6), Joint Intervenors allege that Applicant is a relatively poor risk and will be crowded out of the capital markets by the unprecedented demand for capital projects over the years by the electric utility industry. In support of its contention, Joint Intervenors cite the low rating of Applicant's bonds. As we have seen, however, Applicant has sold bonds (and also issued stock, as recently as December 1975 - Exhibit 35) despite the rating. It is more likely that capital will become more expensive, not unavailable, if capital becomes scarce in the future (Cioni Testimony at 6). One of Applicant's witnesses, an acknowledged expert in this field, testified that the weaker demanders of capital most likely to be crowded out of the financial markets will be small businesses, local governments, and individuals. He deliberately omitted from the list of weaker demanders of capital the regulated private utilities, which, in his view, are in a preferred position in the capital markets. He testified that under almost any foreseeable scenario, utilities with credit ratings of singe-A or single-A minus will have good access to the capital markets, the only question being the requisite interest rate (Tr. 2920A-2921). The Board finds no evidence in the record that demand for capital will make the Applicant unable to raise the necessary funds.

69. The final part of Contention IIIA asserts that the increase in allowance for funds used during construction (AFDC) will limit the sale of stock and debentures. The evidence does not support the assertion. During the past 5

years, 84% of Applicant's AFDC has been interest and preferred dividend costs of borrowed money. The propriety of capitalizing this has never been seriously questioned. The formula prescribed by the SEC for calculation of earnings for calculating earnings to fixed charge ratio provides for inclusion of 100 percent of AFDC. The definition of earnings under the Applicant's mortgage indenture is somewhat different, but during the last 5 years, 71 percent of the AFDC has qualified (Cornelius Testimony at 17-19). In addition, as we have stated earlier, the most recent rate decision in Missouri allowed applicants to capitalize CWIP, which will avoid any AFDC for that portion of plant. The Board has been unable to find any substantial evidence that AFDC will have a significant adverse affect on the Applicant's ability to finance the plant.

70. Intervenors contend in Contention IIIB that probable overruns have not been considered in the Applicant's estimate of cost of construction of the Callaway facility. However, Applicant's most recent cost estimate includes contingency allowances of 63.3 million dollars for Unit 1 and 56.2 million dollars for Unit 2 of the Callaway Plant (Cioni Testimony at 7). Thus, the Board finds that the Applicant has taken the possibility of cost overruns into account in estimating the cost of the Callaway Plant.

71. In Contention IIIC, Joint Intervenors allege that the low quality of its earnings and its low tax rate are illustrations of the Applicant's financial weakness. Intervenors, however, have not further asserted the manner in which this alleged financial weakness impairs the capability of the Applicant to obtain the funds necessary for construction of the Callaway project. The Board notes that the Applicant is a "flow-through" company and therefore will flow-through the tax savings associated with accelerated depreciation. This is an accounting technique which is a principal determinant of the Applicant's low tax rate and is further mandated by regulatory commission policy. Additionally, the total taxes paid by an electric utility will vary from year to year as a result of its current business transactions, local tax rates, the investment tax credit applied to electric plants placed in service during the period and many other factors (Cioni Testimony at 7). The Board finds that the relatively low tax rate of the Applicant in and of itself, is an insufficient basis for determining the company's financial strength or weakness.

72. Joint Intervenors allege in Contention IIID that depreciation is inadequate to replace Callaway Plant Units 1 and 2. However, depreciation will be determined by policies established at the time the plant is placed in operation and the relevance of the contention at this time is questionable. Beyond this, however, the contention appears to reflect a misunderstanding of the function of depreciation. Depreciation is not intended as a source of funds to fully replace the property or plant being depreciated. Rather it is a system of accounting which aims to distribute the cost of a plant, less any salvage value, over the estimated life of the plant in a systematic and rational manner. Depreciation

permits expense allocated to a given accounting period to be offset representatively, in part, against the revenues produced through the use of the property or plant during that period (Cornelius Testimony at 20-21). In any event, it is not apparent that the adequacy of the depreciation allowance would affect the Applicant's financing capability.

73. The final contention, Contention IIIE has been addressed earlier.

74. Proposed Finding 3 of the Joint Intervenors asserts that it is not reasonably probable that the Missouri Public Service Commission will continue to approve the rate increases necessary to finance the plant. We reject this finding on the basis of our discussion in Paragraphs 54 to 59 *supra*.

75. Proposed Finding 4 is addressed to the sufficiency of the cost estimate for the plant and is rejected on the basis set forth in Paragraphs 52 and 70 *supra*.

76. Proposed Finding 5 relates to the downgrading of Applicant's credit rating and its effect on interest rates. This finding has, in essence, been incorporated in Paragraph 67 of our findings.

77. Proposed Finding 6 is addressed to the same subject as Proposed Finding 3 and is rejected for the same reason.

78. Proposed Finding 7 is rejected because it, again, is addressed to cost estimates and has been covered in Paragraphs 52 and 70 *supra*.

79. In consideration of all the evidence adduced by all parties in the proceeding relative to the capability of the Applicant to obtain the necessary funds to design and construct the Callaway project, the Board finds that there is reasonable assurance that the Applicant can obtain such funds as are necessary for the construction of the Callaway Plant including related fuel cycle cost and that therefore the Applicant is financially qualified to design and construct the proposed facility.

## IV. COST OF FUEL, AVAILABILITY OF FUEL, AND COST-BENEFIT BALANCE

80. The Board has reconsidered its Findings in Paragraphs 69–80 of its August 8, 1975, Partial Initial Decision, relating to nuclear fuel costs and availability in the light of the actions taken by Westinghouse respecting abrogration of parts of its fuel supply contract with the Applicant. The principal questions considered by the Board were whether or not the recent changes in the fuel cost situation have altered the cost-benefit balance and whether or not the record supports the Board's previous finding that there will be an adequate supply of uranium.

81. The Board's findings in its earlier decision was based in part on the existence of a contract between the Applicant and Westinghouse providing *inter alia* for a 21-year supply of uranium for the plant. The estimates of fuel cycle costs given by the Applicant in its earlier testimony were based on the firm

prices (plus escalation) provided in the contract for the first twelve years of operation and on estimates (based on industry models) developed by its fuel consultant for the balance of plant life.[2] On September 8, 1975, Westinghouse announced that it considered itself "legally excused" from a portion of its obligation to deliver uranium. Westinghouse announced that it intended to perform its contracts to the extent of its uranium presently in inventory or on order by distributing it fairly and equitably among its customers. Westinghouse also announced its intent to invest substantial funds in exploration and production of uranium which would be made available to its customers on favorable terms. Applicant has subsequently filed a civil action against Westinghouse to compel performance of the fuel contract. In an Order entered in that action on February 3, 1976, by the U. S. District Court for the Eastern District of Virginia, Westinghouse was directed to deliver to Applicant (among others) an allocated percentage of Westinghouse's existing uranium supply at the times and prices specified in the contract.[3] While the precise quantity of uranium to be delivered was to be determined after a report was made to the Court on February 16, 1976, the allocation formula set forth in the Order would provide Applicant with 2.0 million pounds of urnaium, to be delivered at the times and prices specified in the contract, until the allocated amount is reached. This amount of uranium will be sufficient to fuel the complete first core of Unit 1 of the Callaway Plant, and at least half of the first core of Unit 2 of the Callaway Plant. All or a part of this uranium, however, is not yet in the hands of Westinghouse and its delivery by Westinghouse to its customers is dependent on its receipt by Westinghouse from its suppliers.

82. Both Applicant and Staff presented additional evidence on projected fuel costs based on their evaluations of the current $U_3O_8$ market conditions and their current predictions of the future prices for uranium. The Applicant reported that $U_3O_8$ spot market prices for immediate delivery have increased in the past two years from about $6 per pount to about $26 per pound. Applicant has recently issued a letter of intent and is negotiating a contract for 1,000,000 pounds for 1980 delivery at $40 per pound plus interest for three years, or approximately $50 per pound for 1980 delivery payable in 1980 dollars (Supplemental Direct Testimony of Seymour Jaye, following Tr. 2677 (hereafter Jaye Supplemental Testimony), at p. 10; Tr. 3017-3018). Applicant's fuel consultant, based on its industry models, currently projects $U_3O_8$ prices of $34 per pound in 1980, $42 per pound in 1990 and $76 per pound in 2000. Use of these

[2] The Staff's estimate was based on cost projection by ERDA

[3] Affidavit of Seymour Jaye, February 6, 1976, with attachment. Applicant's unopposed motion of February 9, 1976, that this affidavit be marked as Exhibit 48 and received in evidence is granted.

projected prices leads the consultant to predict a 1982 nuclear fuel cycle cost of 4.1 mills per KWH and a 20-year levelized cost of 4.6 mills per KWH (Jaye Supplemental Testimony at pp. 2-3). The earlier predictions of these costs were 2.5 and 3.4 mills per KWH, respectively. The allocation of Westinghouse fuel discussed above, if realized, will somewhat reduce these costs. Use of the fuel now under letter of intent, however, will somewhat increase the costs. If both events come to pass, the 1982 cost will be increased by 0.5 mills per KWH and the 20-year levelized cost will be increased by 0.2 mills per KWH (Jaye Supplemental Testimony at pp. 10-11). This change appears insignificant in relation to overall costs.

83. The Staff projected a 1982 $U_3O_8$ price, based on supply cost and rate of return considerations, of $31.88 per pound. Because of market influences and the possible course of reserve development, the Staff increased this to $40 per pound for use in the cost-benefit calculations (Supplemental Testimony of Darrel A. Nash, following Tr. 3088-B (hereafter Nash Supplemental Testimony) at pp. 9-10). Using this as a basis, the Staff updated its earlier estimate of 5.6 mills per KWH and arrived at an estimate of 7.1 mills per KWH (Nash Supplemental Testimony at pp. 10-11). The Staff further estimates that use of the fuel under letter of intent (but not the Westinghouse allocation) would raise this by 1.0 mills per KWH (Nash Supplemental Testimony at pp. 12-13). The Staff has not calculated (either now or earlier), a levelized fuel cost based on assumed escalation. Rather, it has made its comparisons of power generation costs between nuclear and coal plants on basis of 1982 costs without any escalation. This, of course, favors coal in the comparison, because equal escalation for both fuels would increase coal-fired generation costs faster than nuclear generation costs as a result of the larger fraction of generation costs accounted for by fuel in the case of the coal-fired plants (Pollnow Testimony following Tr. 1459, at p. 26).

84. Both Applicant and Staff have revised the comparisons of 1982 coal versus nuclear generation costs. The Applicant now calculates a cost advantage for the nuclear plant of 8.9 mills per KWH at an 80% capability factor, 8.7 mills per KWH at a 70% capability factor and 8.3 mills per KWH at a 60% capability factor. Using a 59% capability factor for the nuclear plant and 67% for the coal-fired plant, the Applicant finds a 5.4 mill per KWH advantage for the nuclear units (Jaye Supplemental Testimony, Table 2). The Applicant's comparable earlier figures were 10.5, 10.4, 10.0, and 6.9 (Testimony of H. Clyde Allen, following Tr. 1079, Exhibit 5). The Staff's similar calculation shows a nuclear cost advantage 4.4 mills per KWH at a 75% capacity factor, 3.9 mills per KWH at 65% capacity factor and 3.5 mills per KWH at 55% capacity factor (Nash Supplemental Testimony, Table 5). The earlier comparable figures were 5.9, 5.4, and 5.0 (Pollnow Testimony, Table 10). Since one mill per kilowatt-hour at 70% capability factor represents about seven million dollars per year, the advantage of the nuclear plant, although smaller, remains substantial and the previous views of the Board as to the cost-benefit balance remain unchanged.

85. The Board has reviewed the testimony presented earlier with respect to the amounts of $U_3O_8$ reserves and resources (Testimony of Allen, Exhibit 10; Testimony of Pollnow, pp. 19-20) and considered the additional testimony offered in December and January (Jaye Supplemental Testimony, pp. 3-8; Nash Supplemental Testimony, 3-8; Testimony of Richard H. DeVoto, attached as Appendix A to Jaye Supplemental Testimony; Tr. 3023-3042, 3049-3080, 3093-3095; Exhibit 42). The testimony presented in the current sessions was extensive. The witnesses for both Staff and Applicant discussed the definitions of the various types of resources, the methods by which the sizes of the resources were estimated, and the nature of the inaccuracies involved. Although some of the more recent evidence presented tends to demonstrate that ERDA's resource (as opposed to reserve) estimates may not be precise, adequate reserves and resources appear to be available. Even discounting the "hypothetical" and "possible" resources, it appears to the Board that the amounts of uranium in the "reserves" and "probable resources" categories, even allowing for possible (and likely) inaccuracies, are sufficient to assure with a reasonable probability that adequate fuel will be available for this facility, considering the needs for all of the 236 reactors presently operating, under construction, and planned. Further, this conclusion appears to the Board to be valid regardless of the assumptions that are made regarding uranium or plutonium recycle or enrichment tails assay. While there might be some question regarding the adequacy of uranium resources for the 625 to 1200 reactors that ERDA anticipates might be in existence by the year 2000, this Board need not and has not addressed that issue.

86. Intervenors while not raising any specific contention respecting fuel costs nor contract terms has filed proposed findings based upon the direct and cross-examination of the data presented by the Applicant and the Staff. The foregoing analysis of costs and estimates made by the Board establishes that Intervenors proposed findings are not supported by reliable probative and substantial evidence and are therefore rejected. Intervenors rely upon portions of Applicant's and the Staff's evidence which are out of context of the presentation made by the witnesses. Applicant's witnesses indicated a reliance on domestic, not foreign supplies, and the Staff estimates of costs were based upon the projected trend of market conditions, not estimates of prices that might or might not be included in an additional fuel contract for the Applicant. In addition, Intervenors utilize capacity factors for cost comparisons that are contrary to previous findings made in the LWA portion of the proceedings. Intervenors presented no evidence to dispute those findings. For these reasons, Intervenors findings numbered 8 and 9 are rejected. Intervenor's proposed finding number 10 is the subject of both majority and dissenting opinions and is rejected by the majority.

## V. FUEL CONTRACT CONSIDERATIONS

87. At the outset of this proceeding, Applicant verified that it possessed a

valid fuel supply contract covering the supply of uranium for the first 21 years of the plant life. As described earlier, Applicant reported during the course of the hearings that its supplier, Westinghouse Corporation, stated its position that it is excused from fully performing its obligation to supply uranium under this contract. The Applicant disputes this Westinghouse position and court action to resolve the dispute is in progress. The Applicant, meanwhile, has considered other sources of supply, and the record shows that it has issued a letter of intent to execute a contract with Western Nuclear Corporation for 1,000,000 pounds of $U_3O_8$. At the time of the last evidentiary hearing negotiations were still continuing and a formal contract had not been signed.

88. The Board has considered the question of the necessity of evidence of a firm fuel supply and delivery contract as a part of this proceeding. On January 30, 1976 the Board requested by letter that the parties address this question in their proposed findings and conclusions, and, in a letter of February 11, requested the Staff to provide information as to whether "the generally consistent practice of the Commission is to secure proof of a fuel contract at the time of issuance of a construction permit" and, if so, that the Board be advised of any exceptions to such a practice. Both Applicant and Staff responded to the Board's January 30 request. The Applicant states that it is not aware of any requirement in law that it need prove the existence of a contract nor is it aware that a requirement for such a demonstration would be consistent with past Commission practice ("Applicant's Statement on the Need for Evidence of a Firm Fuel Supply and Delivery Contract" dated February 9, 1976). The Staff took a similar position with respect to the requirements of the Atomic Energy Act and also considered the applicability of NEPA to the question. Acknowledging the relevance of fuel availability and price to both the cost-benefit balance and the comparisons of alternatives, the Staff concluded that the current record was sufficient to demonstrate that the Callaway Plant has a favorable cost-benefit balance and is preferred over the coal alternative ("NRC Staff's Statement on Necessity of Nuclear Fuel Supply Contract" dated February 20, 1976).

89. The Board addressed an additional letter to the Staff on February 27 requesting again that the Staff review the records of applications and other related submittals to provide information on the extent of the practice of applicants providing information respecting the existence of fuel supply contracts in connection with their applications. The Staff responded to this on March 19, 1976, by Affidavit of Harold R. Denton, Director of the Division of Site Safety and Environmental Analysis.[4] The Affidavit stated, in essence, that the NRC has

[4] Without objection from the other parties, the Affidavit of Denton is received in evidence and incorporated herein as Exhibit 49.

no requirement that an applicant submit proof of execution of a fuel supply contract with its application, that no mention was found of fuel supply contracts in the Environmental Reports or in the Safety Analysis Reports examined, and that the only mentions found were in the prospectuses routinely requested from applicants in the course of Staff review of financial information. According to the Affidavit, the Union Electric prospectus of March 19, 1975, described both long-term coal contracts and the 21-year Westinghouse nuclear fuel supply contract. The Staff's records for three other proposed facilities were examined. Two of these were in the very early stage of the licensing process. In one case the prospectus stated that no fuel contract had been executed. The second case had not yet reached the stage of Staff review at which prospectus information is required. In the third case, the prospectus stated that a fuel supply contract was "under negotiation." In this latter case a construction permit was granted on February 24, 1976.

90. The Board has reviewed the regulations and the information submitted by the parties. It finds that there is no express requirement that an applicant possess a nuclear fuel contract in order to receive a construction permit. Although it is likely that in many cases an applicant has in fact had such a contract at the time of issuance of the construction permit, it is reasonable for us to conclude that this was done for business reasons rather than to satisfy a regulatory requirement. This view is buttressed by the appearance of the information on contracts not in documents prepared for the Commission, but in prospectuses prepared for other purposes and submitted to the Commission only as ancillary information bearing on financial qualification. Taken in its proper context, this information is provided in the prospectuses for the purpose of advising prospective investors of information relevant to the utility's fuel supply situation and its long-term obligations. In our view, such assertions regarding the existence of fuel supply contracts, even if they are all positive which they are not, do not, simply by their prevalence, become *de facto* regulatory requirements.

91. The requirements relating to fuel that do appear in the rules appear in the portion of the rules covering financial qualifications and require that the applicant provide information to "show that the applicant possesses the funds necessary to cover *estimated* construction costs and related fuel cycle costs" (Section 50.33(f), emphasis added). For this purpose, although a firm contract might provide the best estimate of costs, the Board has found above that the estimates presented on the record, for both construction and fuel cycle costs, are adequate to allow us to make the findings regarding financial qualification that we have made in this decision. Similarly, we have found the estimates adequate

for the findings required by NEPA regarding cost-benefit balance and alternatives.[4a]

92. At the suggestion of the dissenting member of the Board, we have reviewed the legislative history of the private ownership act and have received a somewhat different impression from that of our colleague. In our view, the basic purpose of the Congress was to put the provision of nuclear fuel on a commercial basis comparable to that of fossil fuel. This included the ability of the utilities to enter into long-term contracts if they so desired. We find no indication in the history of the intent to make this mandatory, but rather to permit utilities to undertake their normal planning procedures and to deal with suppliers in the normal commercial manner.

## VI. CONCLUSIONS OF LAW

The Board has reviewed the entire record in this proceeding, including all of the proposed findings of fact submitted by the parties. Those proposed findings submitted by the parties which are not incorporated directly or inferentially or specifically discussed elsewhere in this Initial Decision are herewith rejected as being unsupportable in fact or in law, or as being unnecessary to the rendering of this decision.

Based on its review, the Board concludes that the Application and the proceedings thereon comply with the requirements of the Atomic Energy Act of 1954, as amended, the National Environmental Policy Act of 1969 ("NEPA"), and the rules and regulations of the Commission. The Board affirms its prior conclusions that the Staff's NEPA review has been adequate and that NEPA, Section 401 of the Federal Water Pollution Control Act, Appendix D of 10 CFR Part 50, and 10 CFR Part 51 have been complied with.

---

[4a] Our dissenting colleague takes us to task in footnote 8 for an apparent inconsistency between our position regarding the need for fuel contract prices in the *Wolf Creek* case and the lack of need for a contract here. We agree that an explanation is appropriate. The *Wolf Creek* order was prepared and issued by the Chairman with the agreement and general concurrence of the other Board members, but they were unavailable to give it a detailed review. The Chairman is, of course, authorized to do this. Upon careful review, we find that we would not have selected the same words he did. In particular, we disagree with the following:

> "The Board attaches considerable weight to the necessity for actual cost information for the cost-benefit analysis required to be made under NEPA and the Commission's regulations . . . The Board finds it difficult to conceive of a valid cost-benefit analysis being based upon someone's estimate or guess at what the market price is, or might be . . ."

We did not disagree with the ultimate order—that the fuel supply cost terms of the contract be disclosed—for a reason that clearly distinguishes the two cases: in *Wolf Creek* the Applicant was at that time basing its fuel cycle cost estimates on the Westinghouse contract; in *Callaway* it is not.

The Board further finds that the record in this proceeding contains sufficient information to support the following conclusions:

A. In accordance with the provisions of 10 CFR §50.35(a):

(1) The Applicant has described the proposed design of the facility, including, but not limited to the principal architectural and engineering criteria for the design, and has identified the major features or components incorporated therein for the protection of the health and safety of the public;

(2) Such further technical or design information as may be required to complete the safety analysis, and which can reasonably be left for later consideration, will be supplied in the final safety analysis report;

(3) Safety features or components, if any, which require research and development have been described by the Applicant; and the Applicant has identified, and there will be conducted a research and development program reasonably designed to resolve any safety question associated with such features and components; and

(4) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the Application for completion of construction of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

B. The Applicant is technically qualified to design and construct the proposed facility.

C. The Applicant is financially qualified to design and construct the proposed facility.

D. The issuance of permits for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.

E. Subject to the conditions set forth in the Partial Initial Decision:

(1) The Environmental review performed by the Staff (pursuant to the National Environmental Policy Act of 1969) and set forth in the final Environmental Statement has been adequate.

(2) Sections 102(2)(A), (C) and (D) of NEPA, Appendix D of 10 CFR Part 50, and 10 CFR Part 51 have been complied with.

(3) The Board has considered the final balance among conflicting Environmental factors, and has weighed the various benefits against costs, taking account of the need for power, and the alternatives to the plant and certain of its design features. As a result, the Board concludes that these considerations favor the issuance of construction permits for the facility.

## VII. ORDER

On the basis of the Board's findings and conclusions in its Partial Initial

Decision and this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations, IT IS ORDERED that the Office of the Nuclear Reactor Regulation is authorized to issue to Union Electric Company permits to construct Callaway Plant, Units 1 and 2, consistent with the terms of this Initial Decision.

IT IS FURTHER ORDERED, in accordance with 10 CFR §§2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission forty-five (45) days after the date of issuance thereof, subject to any review pursuant to the Commission's Rules of Practice. Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter [twenty (20) days in the case of the Staff] any party filing such exceptions shall file a brief in support thereof. Within fifteen (15) days of the filing of the brief of the Appellant [twenty (20) days in the case of the Staff], any other party may file a brief in support of, or in opposition to, the exceptions.

THE ATOMIC SAFETY AND LICENSING BOARD

George C. Anderson, Member

Lester Kornblith, Jr., Member

Dated at Bethesda, Maryland
this 8th day of April 1976.

**Samuel W. Jensch, Dissenting:**

I agree with my colleagues respecting radiological safety considerations and financial qualifications determinations. I disagree with their conclusion that there is no need at the construction permit proceedings for an adequate and effective fuel supply contract.

In view of the uncertainty of a delivery of an adequate fuel supply for the proposed plant operations, it is my opinion that the present state of the record is sufficient only for the issuance of an additional Limited Work Authorization (LWA). The added authority to Union Electric Company (Applicant) would permit construction to continue, subject to 10 CFR Section 50.10(e), and would also permit Applicant to develop an adequate fuel supply.

The majority opinion herein, as well as the Applicant and the Staff, contends that neither the Atomic Energy Commission had, nor the Nuclear Regulatory Commission has, a requirement that an applicant include a contract for an adequate fuel supply in support of its application at the construction permit

stage of proceedings. The majority imply that a contract should be shown at the operating permit stage; but, again, the Staff and Applicant's argument appears to be that nowhere in the regulations is there a requirement for a contract for an adequate fuel supply.[5] I believe that the regulatory practice established at both Commissions is to expect, and impliedly require, a showing of the existence of an adequate fuel supply so that the finding can be made, at both the construction permit and operating permit stages of licensing, that an applicant can construct and operate a proposed nuclear plant.

Prior to the enactment of the legislation permitting private ownership of uranium fuel for power reactors, the Atomic Energy Commission (AEC) allocated adequate fuel supplies for the life of a proposed nuclear plant. That allocation request was made at the time of the construction permit proceedings. That practice reflects both the request of an applicant for a permit for a long term fuel supply, and the favorable action by the AEC, if safety design and financial requirements are met. When reactor applications began to increase in number, about 1960, the AEC was also confronted with an increasing supply on hand of uranium fuel, so much so, that the AEC restructured its sponsored uranium exploration program by modifying contracts for procurement and extending the dates for receipt of yellow cake and payment therefor.

The legislative history of the private ownership bill reveals that explorers, producers and processors desired long term commitments in order to continue their efforts in developing supplies. The AEC had been considering private ownership of fuel and the combined efforts of the explorers, producers, processors, utility applicants, and the Atomic Industrial Forum resulted in the private ownership bill. The hearings before the Joint Committee on Atomic Energy and the legislative discussions in both the House and Senate are full of expressions of the need for long term commitments being made on the producer side of the supply equation. Such expressions are also equated with other views that the private ownership bill would enable utilities to make long term com-

[5] Many will be amazed to learn that the Regulatory Staff takes the position that there is no requirement for a power reactor applicant to possess a fuel supply contract at any time in the proceedings for a license. The majority opinion implies that the fuel contract need not be demonstrated at the construction permit stage. Since the only other time for evidentiary review is at the operating permit stage, it is inferred that at that time, the contract should be presented. If this is not a correct inference, then it must be that the majority concludes that at no time need a fuel contract be demonstrated in order to procure a license from the Commission. The dissenting opinion, based upon the legislative history, the practice in licensing work, and the necessity for data for findings to comply with the regulations, shows that there is a compelling need for proof of a fuel contract, at the outset, or construction permit stage of the proceedings, just as it is necessary to provide at the outset the proof of financial capability to construct and operate a facility.

mitments for procurement of adequate fuel supplies in order to make accurate analyses of costs of operation over the lifetime of a proposed nuclear facility. The central theme, thus, was for long term commitments of uranium fuel supplies.[6]

Registration statements filed at the Securities and Exchange Commission (SEC) by utility applicants or operators of nuclear power plants reflect varying terms of contracts for fuel supplies. The full disclosure principle of the SEC is of some assistance in providing recognition that long term contracts for fuel supply are part of the showing needed for financial support for the securities proposed to be issued by an S-7 registrant.

In this instant *Callaway* proceeding, as the majority herein point out, Union Electric (Applicant) started out on this project for a construction permit by showing that it possessed a 21-year fuel supply contract with Westinghouse. There is evidence in the record that the 21-year contract is subject to the Westinghouse contention that it is no longer obligated to deliver fuel under that contract because of alleged unanticipated changes in economic and price conditions. Union Electric presented two alternatives: (1) an Order of the United States District Court accepting a stipulation of the parties to require Westinghouse to deliver specified amounts to several utility buyers from supplies

---

[6] Former AEC Commissioner Robert Wilson was quoted by Senator Morton to express the objective of the legislation as follows:

"Third. It would provide the utility industry and the atomic equipment industry greater assurance as to their *long range costs over the economic life of atomic power plant.*

"Fourth. It would allow, and *eventually require electric utilities* to obtain nuclear fuel under conditions comparable to those for other fuels, and thus permit a more realistic comparison of the true competitive aspects of nuclear and conventional power." (Emphasis added) *Congressional Record,* March 16, 1964, page 5141.

Other expressions urging adoption of the legislation are as follows:

Congressman Craig Hosmer:

"It is now imperative that this bill be enacted promptly.

* * * *

"First, as nuclear power assumes greater importance in the power economy of the United States, *utility companies and atomic energy industry must be able to plan on a long term basis under normal economic rules. This is particularly true with respect to commitments for fuel.*

"The enactment of this legislation will allow the utillty companies to execute *long term contracts* for fuel and thus *to project, with a reasonable degree of certainty,* the *fuel costs over the life of a nuclear plant.* This long term planning could be done under the same free enterprise conditions which exist in the case of alternate sources of energy." (Emphasis added) *Congressional Record,* August 18, 1964, page 19, 516.

Congressman John Anderson:

"For the utility company, it means a new ability to make *long-term commitments for nuclear fuel under economic* conditions comparable to alternate sources of energy." (Emphasis added) *Congressional Record,* August 18, 1964, page 19, 518.

Westinghouse has "...on hand or on order..."[7] and (2) Union Electric is endeavoring to execute an additional fuel supply contract, but the record does not reflect, as presumably it would by a supplemental filing, that any further supply has been procured.

The sum of it all is that Applicant does not have an adequate fuel supply contract. The necessity and scope of the contract can be measured by Applicant's endeavors (1) for a 21-year supply at the outset, and (2) the search for some alternative source of supply.

For the license sought in this proceeding, the application is in the usual form; it requests a license to construct and operate a nuclear power facility.

The Atomic Energy Act requires (Section 182) that an applicant for a license shall state "...information of the amount, kind and source of special nuclear material required...." That requirement apparently developed at the time that the AEC allocated fuel supplies; but, likewise still applicable, the fuel required is that available from contracts executed for a supply. The regulations of the Commission require certain data to be supplied in an application for a construction permit (10 CFR Section 50.35, *et seq.*). Provision is made, however, that even if all data are not supplied, an updating can be made at the time of the consideration of the issuance of an operating permit. The data allowed to be omitted at the construction permit stage are limited and specifically identified; a fuel supply contract is not within the permitted omissions. The updating at the operating permit stage is largely related to design data and research and development additions to the construction permit presentations. The theme asserted in proceedings involving intervenors is that the basic process is the construction permit stage, and at that time contentions that apply to all facets of the proceeding must be asserted by persons, who participate as intervenors, so that the later operating permit hearings should only relate to updating or significant additions to the basic data previously presented. This same rule that applies to intervenors should be equally applicable here. It is a reasonable inference that the required fuel supply contract must be shown at the construction permit stage because of the basic character of fuel supply contract. The majority recognize this basic character but they believe the contract need not be produced now, and thus they would enlarge the scope of the operating permit proceeding.

---

[7] Union Electric is a SNUPPS applicant. Kansas Gas and Electric is likewise a SNUPPS applicant. The latter interprets the Court Order on the Westinghouse supply in its S-7 SEC registration 1976 statement as follows:

"The Company cannot at this time predict whether the uranium to be delivered pursuant to the Court's order will be sufficient for the initial core load."

The Court Order takes recognition of the fact that Westinghouse apparently does not have "on hand" enough uranium fuel to fulfill its commitments for delivery to the reactor facilities. The Court Order has provided for deliveries for Westinghouse supplies "on order," but that recognition implies the uncertainty whether the supplies "on order" to Westinghouse will actually be delivered or whether economic conditions also relieve the suppliers.

A further aspect on the need for an adequate fuel supply contract is the requirement for an accurate cost-benefit analysis pursuant to the National Environmental Policy Act (NEPA), P. L. 91-190. The majority as well as the Applicant and the Staff are content with estimates of what the market prices of uranium fuel are or will be. The estimates in this record include a wide range and, like many economic predictions, have little validity; NEPA requires the best data that can be made available, and that can be done in this instance by proof of existence of a long term contract.[8]

The absence of an adequate contract has a particularly acute adverse effect in this proceeding. The effect arises primarily from the rate structure enjoyed by Union Electric. While rates are not jurisdictional issues for the NRC, the effect of operations under that rate structure may have an environmental impact. The rate structure for Union Electric has recently been devised by the Missouri Public Service Commission (MPSC) whose primary and exclusive jurisdiction in the revenue aspect is respected by the NRC. The authority recently granted by MPSC to Union Electric permits construction work progress to be added to the plant account at stated intervals. This procedure permits the rates to be high enough to provide for payment of the portions of the plant added to the plant account.[9] The significance of this rate structure is that the rate payers are paying for a partially or completed plant whether or not service is rendered to the rate payers. The general rule for utility rates is that the level of rates is determined from the costs incurred to maintain and operate electric generating,

---

[8] The identical constituent members of the *Callaway* Atomic Safety and Licensing Board also serve for the *Wolf Creek* plant (Kansas Gas and Electric Company, *et al*). In the latter proceeding, the Board has ruled that fuel contract prices must be disclosed in order to make a valid cost-benefit analysis. These prices must come from a long term contract since the cost-benefit analysis extends over the term of the facility. In seeking a solution to the economic distress for the *Callaway* fuel supplies, it is not readily apparent why the majority herein chose not to discuss these principles adopted for the *Wolf Creek* facility.

Until this dissenting opinion was prepared, and even during the discussions in prelude to the majority and dissenting opinions, wherein cost benefit subjects were included, the majority expressed no disagreement with the *Wolf Creek* order. The majority now state they disagree with two sentences but reaffirm their agreement with the order to require disclosure of actual fuel prices to be used as costs. The office arrangement in preparation of drafts of orders and decisions (without receipts) indicate that the local member of the Board received a draft, and he concedes he may have received a draft but did not read it. Whatever be the complaint of the majority, it is no adequate explanation for voting on a subject or principle one way in one case, and voting to the contrary and opposite way on the same principle in another case.

[9] The general rule adopted for rate making, and in effect before some recent innovations, was to permit all costs of plant construction to be recovered by capitalizing interest costs. When the plant was ready to render service, the entire cost was added to the rate base and consumer rates were then established.

transmission and distribution systems that are used and useful in the actual rendition of service. A plant under construction of course is incapable of rendering electric service. A plant without an adequate fuel supply, no matter what may be the hopes of eventually securing an adequate fuel supply is likewise incapable of rendering service. The AEC-NRC approach in most safety and operating contemplations for a nuclear power plant is to assume a "worst" condition; this is termed a "conservative" approach. Applying that principle, it is conceivable that the *Callaway* plant can be fully constructed and paid for by the rate payers who get no or insufficient (below capacity) electric service from the plant for lack of an adequate fuel supply. The NRC review of the environmental impact of a completed skeleton nuclear power plant is a concern to be entertained in this fuel supply uncertainty.

It is difficult for me to ascertain how the regulatory finding can be made at the construction permit state (that a facility can be constructed and *operated* at the proposed location without undue risk, etc.) without an adequate fuel supply contract[10] for the term of the projected life of the facility as identified by the Applicant.

Samuel W. Jensch, Chairman

Dated at Bethesda, Maryland
this eighth day of April 1976

[Appendix A has been omitted from this publication but is available in the NRC Public Document Room, Washington, D.C.]

[10] It is somewhat paradoxical to observe the Regulatory Staff's insistence, rightfully, for a long term contract for a cooling water supply for the companion SNUPPS case (*Wolf Creek*) compared with their lack of insistence for proof of a long term fuel contract (which of course is for a reactor facility that needs an adequate supply of cooling water!).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-16

ATOMIC SAFETY AND LICENSING BOARD

John F. Wolf, Chairman
J. Venn Leeds, Jr.
Forrest J. Remick

In the Matter of

TENNESSEE VALLEY AUTHORITY

(Hartsville Nuclear Plant,
Units 1A, 1B, 2A and 2B)

Docket Nos. STN 50-518
STN 50-519
STN 50-520
STN 50-521

April 20, 1976

Upon application for construction permits for the Hartsville Plant, Units 1A, 1B, 2A and 2B, the Licensing Board issues a partial initial decision on environmental and site suitability aspects of the facility, making determinations of fact and law requisite for the issuance of a limited work authorization.

## NEPA: INDEPENDENT INQUIRY BY FEDERAL AGENCY

NEPA makes environmental protection a part of the mandate of every federal agency, and every federal agency is obliged to evaluate the reasonable foreseeable impact of its proposed actions. *Detroit Edison Company* (Greenwood Energy Center), ALAB-247, 8 AEC 936 (1974).

## NUCLEAR REGULATORY COMMISSION: ENVIRONMENTAL RESPONSIBILITIES

The NRC is authorized to impose conditions to mitigate the adverse environmental impact of proposed facilities. *Calvert Cliffs Coord. Comm.* v. *United States Atomic Energy Commission*, 449 F. 2d 1109 (D.C. Cir. 1971); *Detroit Edison Co.* (Greenwood Energy Center), ALAB-247, 8 AEC 936, 943 (1974).

## NEPA: JURISDICTION

Notwithstanding the grant of authority to TVA in its own Act to determine the need for power, the location, operation and maintenance of transmission lines and the mitigation of socioeconomic impacts, the NRC has the responsibility pursuant to NEPA to consider these matters.

ATOMIC ENERGY ACT: AUTHORITY OVER FEDERAL AGENCY APPLICANTS

Section 273 of the Atomic Energy Act, in conjunction with Section 103 of that Act, requires the NRC to apply the same rules to federal agency applicants as to private utility applicants.

TECHNICAL ISSUES DISCUSSED: need for power; alternatives; water quality (suspended solids); socioeconomic impacts.

## PARTIAL INITIAL DECISION

### APPEARANCES

**David G. Powell, Esq., Alvin Gutterman, Esq., James F. Burger, Esq., and William L. Dunker, Esq.** for the Applicant the Tennessee Valley Authority.

**Leroy J. Ellis, III, Esq.,** and **Raymond Gibbs, Esq.,** for Intervenor Young, *et al.*

**William B. Hubbard, Esq.,** and **William M. Barrick, Esq.,** for the State of Tennessee.

**James Donoho, Esq.** for the Town of Hartsville and County of Trousdale.

**Nader Baydoun, Esq.,** and **Linda Faner,** Attorney for the Metropolitan Government of Nashville and Davidson County.

**William D. Paton, Esq., Lawrence E. Brenner, Esq.,** and **James R. Tourtellotte, Esq.,** for the NRC Staff.

### TABLE OF CONTENTS


| | Page |
|---|---|
| I. INTRODUCTION | 486 |
| II. JURISDICTION | 493 |
| III. CONTESTED ISSUES | 496 |
| A. Need for Power | 496 |
| B. Alternative Sources of Electrical Energy | 502 |
| C. Impacts on Historic Resources | 508 |
| D. Water Quality | 511 |

E. Socioeconomic Impacts . . . . . 518
F. Transmission Lines . . . . . 529
G. Alternative Sites and Systems . . . . . 531
IV. SITE SUITABILITY . . . . . 533
A. Background . . . . . 533
B. Population, Exclusion Area and Low Population Zone Requirements . . . . . 534
C. Nearby Industrial, Transportation and Military Facilities . . . . . 536
D. Meteorology . . . . . 538
E. Hydrology . . . . . 539
F. Geology . . . . . 541
G. Seismology . . . . . 542
H. Foundations . . . . . 543
I. Board's Finding on Site Suitability . . . . . 545
V. COMPLIANCE WITH NATIONAL ENVIRONMENTAL & POLICY ACT AND 10 CFR PART 51 . . . . . 545
A. Board's NEPA Responsibility . . . . . 545
B. Environmental Report and Final Environmental Statement . . . . . 545
C. Impacts of Construction . . . . . 546
D. Impacts of Plant Operation . . . . . 550
E. Monitoring Programs . . . . . 559
F. Cost-Benefit Analysis . . . . . 559
VI. CONCLUSIONS OF LAW . . . . . 560
VII. ORDER . . . . . 561
Appendix (List of Exhibits) . . . . . 562

## I. INTRODUCTION

1. On September 13, 1974, pursuant to Section 103 of the Atomic Energy Act of 1954, *as amended*,[1] the Atomic Energy Commission[2] docketed the application of the Tennessee Valley Authority ("TVA" or "Applicant") to construct four nuclear reactors designated as the Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B (plant); to be located in Smith and Trousdale Counties, Tennessee. The proposed plant would employ four identical boiling water reactors (the plant or the facility), each with a gross electrical power output of approximately 1269 megawatts (Mw) and a thermal power rating of 3579 megawatts thermal (Mwt).

[1] 42 USC § 2011.

[2] On January 19, 1975, the regulatory activities of the Atomic Energy Commission were superseded by the Nuclear Regulatory Commission. The name Commission is used interchangeably for these agencies.

2. This Partial Initial Decision involves the request of the Applicant for issuance of a Limited Work Authorization (LWA) which encompasses general site preparation activity (Tr. 1018)[3] pursuant to Section 50.10(e) of 10 CFR of the Commission's Rules and Regulations. This section authorizes the Director of Nuclear Reactor Regulation to issue an LWA to an applicant for a construction permit after an Atomic Safety and Licensing Board has held a public hearing and made findings required by the National Environmental Policy Act, and further found that there is reasonable assurance that the site for a proposed nuclear power facility is a suitable location for a nuclear power reactor of the general size and type proposed from the standpoint of radiological health and safety considerations.

3. Public hearings on other aspects of the application for construction permits will be convened later. Following those hearings the Board will issue its decision on whether or not a construction permit will be granted.

4. On October 25, 1974, the Commission published a Notice of Hearing on application for construction permits[4] with respect to the application filed by the Applicant on July 1, 1974. The notice set forth the requirements pursuant to the Atomic Energy Act and the National Environmental Policy Act of 1969, as amended[5] (NEPA), to be met prior to the issuance of construction permits. The notice also provided that any person whose interest might be affected by the proceeding could file a petition for leave to intervene in accordance with the requirements of 10 CFR §2.714 and also further notified interested persons that they could file requests for limited appearances pursuant to the provisions of 10 CFR §2.715.

5. The Attorney General of the State of Tennessee (State) telegraphed the Commission on November 14, 1974, requesting a 90-day extension of time in which to file a petition to intervene. On November 22, 1974, the Board issued an order granting the State an extension until January 2, 1975, in which to file a petition and until February 23, 1975, in which to amend such petition. On November 25, 1974, the State filed a request to participate as an interested State pursuant to Section 2.715(c) of the Atomic Energy Commission's Rules of Practice. Both Applicant and the Staff[6] responded supporting the State's request. On December 31, 1974, the State petitioned to intervene. The Staff supported the petition, and Applicant did not oppose it. The State filed an amended petition on February 22, 1975.

---

[3] Applicant's Ex. 1.

[4] 39 Fed. Reg. 38013.

[5] 42 USC §4321.

[6] The Staff referred to prior to January 19, 1975, is the Regulatory Staff of the Atomic Energy Commission, and after said date it is the Regulatory Staff of the Nuclear Regulatory Commission. Both are referred to as "Staff" in this decision.

6. On November 20, 1974, attorney Robert S. Brandt telegraphed the Secretary of the Atomic Energy Commission, requesting on behalf of four unnamed citizens an extension of 30 days in which to file a petition to intervene. It subsequently developed that the unnamed citizens were in fact Dr. Robert J. Neff, Dr. Charles Roos, Mrs. Dolores Siegenthaler, and William Puryear. The telegram also mentioned that he might also represent the Public Health Director of Nashville and alleged that petitions could not be filed on time because of an inability to prepare an adequate petition in the time allotted. The request was opposed by Applicant. On December 17, 1974, the Board issued an order granting an extension of time through December 24, 1974, in which to file a petition for leave to intervene.

7. On December 21, 1974, Dr. J. M. Bistowish, the Director of the Department of Public Health of the Metropolitan Government of Nashville and Davidson County, Tennessee, filed a petition to intervene. On that same date Dr. Robert J. Neff, and the three other named individuals (Neff), also petitioned to intervene. Applicant filed a joint response to the Bistowish and the Neff petitions, opposing both on the grounds that good cause for the late filing had not been shown and opposing the Bistowish petition on the additional ground that the petition did not contain an adequately stated contention. The Staff responded separately, supporting each of these petitions.

8. On November 25, 1974, Henry H. Oldham and ten other persons (Oldham) filed a petition for leave to intervene. Applicant and the Staff each responded in support of the petition.

9. On November 25, 1974, William M. Young, Jr. and 32 other persons (Young) filed a joint petition for leave to intervene. The Applicant responded to the petition supporting it in part and opposing it in part. The Staff's response supported the petition in its entirety.

10. An undated petition to intervene was received by the Atomic Energy Commission on November 29, 1974, from William Turner Kyle and two other persons (Kyle). Applicant opposed and the Staff supported the petition.

11. On December 24, 1974, Ray F. Foley and Jim B. Satterfield (Foley) filed a petition to intervene. On the same date James Donoho filed a *pro se* petition to intervene. Petitioners Foley and Satterfield filed in their official capacities as County Judge and Superintendent of Schools for Trousdale County, respectively. James Donoho filed in his capacity as Mayor of Hartsville. Applicant opposed both petitions on the grounds that they were not timely. The Staff supported both petitions.

12. By notice dated January 27, 1975,[7] the Atomic Safety and Licensing Board (Board) scheduled a prehearing conference to consider the petitions to intervene and to permit identification of key issues. The prehearing conference

[7] 40 Fed. Reg. 4499.

was held in Nashville, Tennessee, on February 25, 1975, with parties and petitioners represented by counsel. At that prehearing conference Applicant withdrew its objection to the Foley and the Donoho petitions (Tr. 11), the Bistowish and the Neff petitions (Tr. 13), and its partial objection to the Young petition (Tr. 21-22).

13. On March 6, 1975, the Board issued a Special Prehearing Conference Order granting each of the petitions to intervene.

14. The Second Special Prehearing Conference was scheduled by notice dated March 18, 1975[8] and was held on April 1 and 2, 1975, at the County Courthouse, Hartsville, Tennessee. At that prehearing conference the Board received a stipulation joined in by Applicant, the Staff, and the State; a stipulation joined in by Applicant, the Staff, and Oldham; a stipulation joined in by Applicant, the Staff, and Young; a stipulation joined in by Applicant, the Staff, and Kyle; and a stipulation joined in by Applicant, the Staff, Bistowish, and Neff. The stipulations, involving the State, Oldham, Bistowish and Neff, and Young, each specified a group of contentions agreed upon for purposes of discovery and also listed contentions in dispute. The Board heard oral argument concerning the contentions in dispute. There was no written stipulation regarding the Donoho and Foley petitions. However, the Applicant did not object to any of the Donoho contentions, and Staff objected to only one contention concerning which the Board heard argument. Foley offered an amendment to his petition, and argument was heard regarding the amended contentions.

15. On May 2, 1975, the Board issued its Special Prehearing Conference Order which decided the issues to remain in the proceeding for purposes of discovery and set out a schedule for the conduct of further proceedings. Pursuant to that Order, extensive discovery occurred during the period from the beginning of May through the middle of July.

16. On August 15, 1975, Oldham filed a notice of withdrawal from the proceeding.

17. On August 6, 1975, the Applicant filed copies of settlement agreements into which it had entered with the Town of Hartsville (Donoho) and Trousdale County (Foley), respectively, on July 25, 1975. The agreements resolved all of the contentions raised by the Foley and Donoho petitions, with the exception of a contention regarding the choice of route for the proposed access railroad. That contention became moot when Applicant amended its application to withdraw the railroad proposal and proposed instead rail-barge facilities. Subsequently, by notices dated September 21, 1975, Foley and Donoho withdrew (following Tr. 4103 and 4104).

18. Pursuant to a notice dated July 22, 1975,[9] a special prehearing con-

[8] 40 Fed. Reg. 13051.
[9] 40 Fed. Reg 31671.

ference was held in Nashville, Tennessee, on August 5, 1975. The Board reviewed the status of the contentions in the proceeding and discussed with counsel the contentions which Intervenors had announced that they would withdraw and the reasons for such withdrawal. Subsequently, the Board issued its Special Prehearing Conference Order #2 on August 8, 1975. That Order designated the issues remaining in controversy in the proceeding and specified whether they would be considered during the first (environmental and site suitability) or second (radiological health and safety) phase of the construction permit hearing. Young was permitted to amend four of the contentions. The Order also specified a schedule for further proceedings and granted the Staff's motion for a delay in the commencement of the evidentiary hearing.

19. Pursuant to the schedule set out in the Special Prehearing Conference Order #2, Applicant filed a motion for summary disposition on August 25, 1975, regarding a majority of the environmental and site suitability contentions which the Special Prehearing Conference Order #2 listed. Responses from the State, Young, and the Staff each opposed in part the motion for summary disposition. On September 22, 1975, the Board issued a Memorandum and Order respecting Applicant's motion for summary disposition. The Order granted summary disposition with respect to certain of the contentions.

20. On September 5, 1975, Young filed three amended contentions pursuant to the August 8 Order and withdrew the fourth contention. The Board issued an Order on October 1, 1975, accepting one of the three amended contentions and rejecting the other two.

21. On August 21, 1975, the Metropolitan Government of Nashville and Davidson County, Tennessee (Metro), filed a petition to intervene. The petition was opposed by the Applicant on the grounds, *inter alia,* that it was untimely. The State and the Staff supported the petition. The Board's Order dated September 22, 1975, admitted Metro as an Intervenor.

22. During the hearing on November 13, 1975, Counsel for the Metropolitan Government of Nashville and Davidson County (Metro) announced that Metro and Applicant had reached an agreement on Metro's contentions numbered 10-A and 10-B. Metro requested and was granted permission to withdraw these contentions. Metro thereupon withdrew from the proceedings (Tr. 3157).

23. On October 1, 1975, the Board issued a Notice of Prehearing Conference,[10] and pursuant thereto, a prehearing conference was held on October 14, 1975, in Nashville, Tennessee. The purpose of the conference was to decide upon a schedule at the evidentiary hearing, to take any steps necessary for the further identification of the issues, and to take other steps to expedite the presentation of evidence. An Order of Proof was discussed, and names of

[10] 40 Fed. Reg. 46366.

witnesses were ordered to be exchanged and a list of questions were posed to parties by the Board to be answered at the evidentiary hearing.

24. On October 6, 1975, the Board issued a Notice of Evidentiary Hearing,[11] which established a schedule for the presentation of evidence at the evidentiary hearing. Subsequently, Bistowish and Neff withdrew from the proceeding by notice dated October 8. Because of the possible expertise of Bistowish and the Neff petitioners, the Board decided to subpoena all of them to appear and testify at the evidentiary hearing.[12]

25. Pursuant to the Board's Order, the evidentiary hearing commenced on October 21, 1975, in Hartsville, Tennessee, for the purpose of receiving limited appearance statements. On October 22, 1975, the hearing shifted to Nashville, Tennessee. Thereafter, evidentiary sessions were held in Nashville on October 23-24, October 28-30, November 4-6, November 11-14, November 18-20, and December 2-5. During the hearing, the State and Applicant presented the Board with settlement agreements regarding several of the contentions.

26. Limited appearances from interested members of the public were heard on October 21, 1975 (Tr. 629), in Hartsville, and on October 23, 1975, in Nashville (Tr. 1071). Eighty-six interested persons expressed their views, and their comments were incorporated into the record. Applicant, Staff and intervenors responded to these statements (Tr. 2417). Both the statements and response have been considered by this Board.

27. On February 5, 1976, the Board heard oral argument on the water quality issue. On February 27, 1976 the Board ordered the record opened to receive affidavits relating to the removal of the gas pipe line, the cost thereof, the hardening of the plant against a possible airplane crash and also the cost of such hardening if deemed necessary. In a telephone conference with the parties the Board stated its determination to preserve for the safety phase hearings the right of cross-examination on the questions of plant hardening and gas pipeline removal. It also stated that it would consider the costs for plant hardening and gas pipeline removal on an upper bound basis in making the cost-benefit analysis. The parties stated that under such circumstances they would forego cross-examination of affiants in regard to the costs. The hearing tentatively set for March 18, 1976, was cancelled.

28. The record in this case consists of all the material pleadings filed herein, the transcripts to date and all exhibits admitted to date.

29. In addition to the issues raised by the Intervenors in this proceeding, the Board has an independent responsibility under NEPA and the Commission's Regulations to consider environmental matters. This Board must determine

[11] 40 Fed. Reg. 47841.

[12] Mrs. Siegenthaler was excused from appearing because of her Attorney's claim that she was in ill health.

whether the requirements of Section 102(2)(A), (C) and (D) of NEPA [now Section 102(2)(A), (C) and (E)] and 10 CFR Part 51 have been complied with in this proceeding; independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken; and determine whether the construction permits should be issued, denied, or appropriately conditioned to protect environmental values.[13]

30. A list of all exhibits, except those attached to the prepared testimony of individual witnesses, appears in the appendix attached hereto. For ease of reference, we will hereafter refer to the Staff's Environmental Statement as the FES; the Applicant's Environmental Report, including its five amendments and three supplements, as the ER; and the Applicant's Preliminary Safety Analysis Report, with its 13 amendments, as the PSAR.

31. Although the Notice of Hearing set forth all the issues which must be considered and decided by this Board to determine whether construction permits should be issued to the Applicant, this partial initial decision addresses only the environmental issues specified by the Notice of Hearing and 10 CFR Part 51, the environmental and site suitability contentions of the Intervenors, the site suitability issues specified by 10 CFR §50.10(e)(2), and certain other particular matters set forth herein. An initial decision on the remaining radiological health and safety issues and this Board's ultimate decision on issuance of the construction permits will be issued after concluding public hearings on the remaining radiological health and safety aspects of the application.

32. In making the findings of fact and conclusions of law in this Partial Initial Decision, the Board reviewed and considered the entire record of the proceeding and all the proposed findings of fact and conclusions of law submitted by the parties. All of the proposed findings of fact and conclusions of law submitted by the parties which are not incorporated directly or inferentially in this Partial Initial Decision are rejected as being unsupported in law or fact or as unnecessary to the rendering of this Partial Initial Decision.

## II. JURISDICTION

33. The Applicant argues[14] that under the Congressional mandate of the TVA Act, discretion is given to TVA for various activities including a determination of need for power, the location, operation and maintenance of transmission lines, and the mitigation of socioeconomic impacts. It contends

[13] 39 Fed. Red. 38013.

[14] Applicant's Proposed Findings of Fact and Conclusion of Law dated Dec. 22, 1975; Applicant's Brief, of Jan. 2, 1976, in Support of Its Proposed Findings and in Opposition to Certain Permit Conditions Proposed by NRC Staff.

that NRC does not have jurisdiction to review the exercise of such discretion under either the Atomic Energy Act or NEPA. It claims that NEPA does not increase NRC's jurisdiction and accordingly NRC may not regulate environmental and economic impacts. The Applicant's arguments are not well taken.

34. The Atomic Safety and Licensing Appeal Board (Appeal Board) in Detroit Edison Company[15] (Greenwood Energy Center), held that:

> NEPA's enactment substantially broadened the environmental responsibilities of the Federal Government by making the policies of that Act "supplementary to those set forth in existing authorization of Federal Agencies" 42 U.S.C.4335. The Atomic Energy Commission was not excepted. In a landmark decision the District of Columbia Circuit ruled that: "NEPA first of all makes environmental protection a part of the mandate of every federal agency and department," and that the "sweep of NEPA is extraordinarily broad, compelling consideration of any and all types of environmental impact of federal action." *Calvert Cliffs Coord. Com. v. United States Atomic Energy Commission*, 449 F. 2d 1109, 1112, 1122 (1971) . . . In short, every federal agency–including this one–is obliged to evaluate the "reasonably foreseeable environmental impact" of its proposed actions. It must then decide in light of those ramifications whether any given action should be allowed to go forward. *Scientist's Inst. for Publ. Info. v. Atomic Energy Com.*, 481 F. 2d 1079, 1091-92 (D.C. Cir. 1973).

35. Contrary to Applicant's contention, NRC is authorized to impose conditions to mitigate the adverse environmental impact of proposed facilities. In *Calvert Cliffs, supra* at 1128, the Court said:

> Clearly, it is pointless to "consider" environmental costs without also seriously considering action to avoid them. Such a full exercise of substantive discretion is required at every important, appropriate and nonduplicative stage of an agency's proceedings.

36. The authority to impose conditions to mitigate adverse impacts was upheld by the Appeal Board in *Detroit Edison Co., supra* at p. 943:

> In sum, the Commission has the right to impose conditions governing offsite transmission line locations where necessary to protect the public from radiological health and safety hazards. This being so, it has comparable authorization to impose license conditions designed to ameliorate the environmental impact of those lines.

37. The legislative history of AEC contains the Senate Committee's explanation that:

[15] ALAB-247, 8 AEC 936, 938 (1974).

Section 271 preserves the regulatory power of any appropriate agency with respect to the generation, sale or transmission of electric power.[16]

38. The Appeal Board in *Detroit Edison, supra* at p. 942 agreed that:

> Section 271 was designed simply to preserve the traditional regulatory jurisdictions of other Federal, State and local agencies over the sale and transmission of electricity.

39. On page 5 of its Brief, dated January 2, 1976, TVA admits it is subject to NRC jurisdiction in applying for necessary permits for its nuclear plant. Section 273 in conjunction with Section 103 of the Atomic Energy Act requires the Commission to apply the same rules to federal agency applicants as to private utility applicants.

40. The Board finds on the basis of the holdings set out above, that it has jurisdiction of the various activities, in question, including but not limited to need for power, transmission lines, and TVA's plans to mitigate socioeconomic impacts.

41. The same conclusion is reached by analyzing the NRC's regulations. The Board's authority to condition a permit and to review environmental matters is contained in 10 CFR §51. In particular, §§51.5 and 51.22-26 require the Director of Regulation to prepare and circulate a Draft Environmental Impact Statement. Section 51.52(b)(1) provides that the Staff will offer the Final Environmental Impact Statement in evidence in a construction permit hearing.

42. Section 51.52(c)(3) provides that the Board will:

> "(c) In addition to complying with Applicable requirements of paragraphs (a) and (b) of this section, in a proceeding for the issuance of a construction permit for a nuclear power reactor, testing facility, fuel reprocessing plant or isotopic enrichment plant, or for the issuance of a license to manufacture, the presiding officer will:
>
> (3) determine after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering available alternatives whether the construction permit or license should be issued, denied, or appropriately conditioned to protect environmental values."

43. The Notice of Hearing provided actual notice to the Applicant of §51.52(c) of 10 CFR and quoted §51.52(c)(3). Thus, if this Board does not fulfill §51.52(c)(3), the Board would be violating the Commission's regulations.

44. Furthermore, procedures were available for the Applicant to challenge this regulation. Section 2.758 of 10 CFR provides a specific procedure to chal-

[16] S. Rep. No. 1699, 83rd Cong. 2nd Ses. (1954).

lenge a regulation of the Commission. The briefs of the Applicant do not contain the affidavit specified in §2.758(b) detailing the "special circumstances" that indicate the "rule or regulation" would not serve the purpose for which the rule or regulation was adopted. Exercising the Board's discretion and ignoring the lack of affidavit, the Board has examined the briefs of the Applicant as if the challenge to the regulations had followed §2.758. The Board does not find in the briefs "the prima facie showing" that §2.758(b) requires.

45. The Board rejects the Applicant's arguments, regarding NRC's jurisdiction, as a challenge to the regulations improperly made and lacking the critical "prima facie showing" required by the regulations.

## III. CONTESTED ISSUES

46. The original petitions to intervene contained 150 separately stated contentions. During the prehearing phases, the number was reduced and the remaining consolidated into six categories: Need for Power; Alternative Sources of Electrical Energy; Impacts on Historic Resources; Water Quality; Social and Economic Impacts; and Transmission Lines. The Board's findings on these contested issues are discussed first. The numbering of the contentions follows the Board's Special Prehearing Conference Order #2 of August 8, 1975.

### A. NEED FOR POWER

47. Young, *et al.*, advanced contentions 1 and 2:

"1. Applicant and Staff have overstated the need for plants in that:
   (a) They have underestimated the effect of conservation of electricity; and
   (b) They have used an excessive growth rate in projecting future demand for electricity.
2. In noncompliance with 10 CFR Part 51 concerning alternatives to the proposed action, Applicant and Staff have failed to adequately discuss measures designed to reduce the regional demand for electricity, including:
   (a) the use of higher rates during times of peak demand;
   (b) the expansion of electricity conservation promotional programs."[17]

48. Six witnesses were presented on the question of the forecasting of system peak load and energy requirements for the TVA system. The Applicant and NRC each called one witness; and Young called four witnesses, one of which was a TVA employee. In addition, the Applicant and Staff each called one witness on the related area of system planning.

[17] Special Prehearing Conference Order #2, August 8, 1975 (Board Order #2).

49. Generation planning by TVA is based on the system's peak load requirement, which occurs during the winter months. The Applicant's witness testified that TVA projects future loads by developing a detailed forecast for each major customer class [18] (Tr. 1638-8); the distributor-served residential loads; the distributor-served commercial and industrial loads; the directly-served industries; and the directly-served federal agencies. In performing the forecast for a particular segment of the load, TVA conducts a variety of investigations (Tr. 1633-8, 1515-9).

50. For directly-served-industries class, TVA's investigations include direct discussion with the customers to ascertain their plans and expectations, examination of the nature of the industry and the processes involved, the economic future of the industry, and an examination of the historical characteristics of each customer's load (Tr. 1515-9, 1663-70).

51. For distributor-served-commercial and industrial class, TVA's investigations include studies of the economic trends and historic performance of the loads, and direct contact with industries in the region to ascertain the current trends in utilization of electricity and plans for future utilization of electricity (Tr. 1633-7).

52. For distributor-served residential class, TVA's investigations include analyses of historical trends in the use of electricity, sales of electric appliances, and the availability of alternate fuels for home heating, trends in the size and number of households, trends in the use of electricity within households and the tendency of customers to respond to changes in the price of electricity and other fuels [19] (Tr. 1633-7, 1720).

53. For directly-served federal loads, especially those at the Energy Research and Development Administration (ERDA) plants in Oak Ridge and Paducah, the demand for power is highly predictable because TVA has contracted to supply electricity to these plants for 10 years into the future. Thus, the ERDA loads are essentially determined into the mid-1980's[20] (Tr. 1633-4). In projecting TVA system loads, the ERDA loads may be projected separately based on the contracts, and included in the final result after developing projections for the other loads.[21]

54. TVA loads during fiscal years 1974 and 1975 were inconsistent with historical trends. This inconsistently appears to have been caused at least in part, by the Arab oil embargo, which took place during fiscal year 1974. Energy conservation, the effects of the oil shortage upon the American economy, and the beginning of the current recession resulted in an abrupt flattening of the load

[18] ER § 1.1.1.2.
[19] ER § 1.1.1.2.
[20] ER 1.1-18.
[21] ER 1.1-9.

growth in 1974 relative to 1973.[22] During fiscal year 1975, this flattening continued.[23] Because the state of the economy is the predominant determinant of TVA's loads, recent TVA forecasts have placed greater emphasis on the study of trends in the economy of the TVA area and the nation[24] (Tr. 1458-61, 1469-76).

55. A factor influencing current and future loads is the availability of fossil fuels for residential heating and commercial and industrial uses. Natural gas is scarce in the TVA area resulting in shifts to electricity from traditional direct fossil fuel applications in industry[25] (Tr. 1697). The use of electricity for home heating, which is quite common in the TVA area, is expected to expand[26] (Tr. 1436, 1478-82).

56. The TVA load forecast included the effect of conservation of electricity and the effects of price on demand for electricity by using price elasticities for classes of customers and projecting the real price of electricity during the period of the forecast.[27]

57. The resulting TVA forecast predicts a peak system demand in the winter of 1981-82 of 31,350 Mw.[28]

58. The Staff's forecast considered three classes of customers: distributor sales; directly-served industries; and federal agencies. The distributor-sales class was further sub-divided into loads less than 1000 kw, between 1000 and 5000 kw, over 5000 kw, and outdoor lighting.[29]

59. The Staff's distributor-sales projections used historical growth rates for each category for the base years 1963-1973 as a starting point.[30] These growth rates were adjusted downward for trends predicted for each class except for loads greater than 5,000 kw for the two periods 1975-1980 and 1980-86.

60. In addition to the distributor demand, the main other classes are the "federal agency" and "directly-served industries." The ERDA load is 90% of the federal-agency load and has been erratic in the past. For example, in 1964 at the time of system peak the ERDA load was 2784 Mw; by mid-1971, the load had decreased to about 1000 Mw. Since then, the load has an upward trend. This power is used primarily by the gaseous diffusion plants and was 23% of system peak in 1964. However, as a result of specific knowledge of ERDA's plans, ERDA's load can be forecast without regard to the past loads. The Staff used the

[22] ER 1.1-6.
[23] ER §1.1.1.1.1.
[24] ER §1.1.1.2.3.
[25] ER §1.1-17.
[26] ER §1.1-17, 18.
[27] ER §1.1.1.2.4.
[28] ER §1.1-23, 24.
[29] Testimony of K. A. Hub (Hub) following Tr. 1929 at 5-6.
[30] Hub at 6.

minimum load that TVA is required to supply. However, although not considered in the Staff's (or TVA's) forecast, under the "desired" ERDA schedule almost 1200 Mw of additional power could be supplied to ERDA, if TVA had the capability to do so, in the early 1980's.[31]

61. The other major category is the directly-served industry. The aluminum and chemical industries constitute 80% of this load. The historic rate was 5.7% between January 1963 and January 1973. For directly-served industry, the Staff used annual growth rates of 6.0% for the period 1975-1980 because 1975 was a period of recession and the Staff expected that growth will be slightly greater than normal during 1975-80. The growth rate used for the 1980-1986 period was 5.1%. The result is that the Staff estimated a directly-served industry demand in 1983 of 4750 Mw while TVA estimates a demand of 4965 Mw.

62. In addition, the Staff performed a "gross-approach" forecast which used the overall historical growth rate in the eleven years prior to 1975 (with the ERDA loads forecast separately as in the "detailed approach") to project the loads to 1986. The results of these two approaches differ by about 1000 Mw (34,300 Mw for the "gross approach" and 35,370 Mw for the "detailed approach") for the 1986 first-quarter peak. The Staff used a value of 35,000 Mw primarily based on the "detailed approach," in its assessment.[32]

63. The Staff concluded that the plant would not be required until one to two years later than the Applicant estimated.[33]

64. Another Staff witness, an employee of the Federal Power Commission (FPC), testified that during the oil-embargo period, conservation efforts had been instituted. These conservation efforts were generally overshadowed by the concurrent depressed economic condition.[34] Furthermore, in light of historic trends and giving due regard to the potential of conservation programs national demand and load growth over the past two years were most probably temporary deviations from historic growth patterns. TVA demand requirements were estimated to grow at a compound rate greater than that which has previously been experienced and will rapidly accelerate immediately following economic recovery and level off at a rate approaching historic patterns.[35]

65. The reserve margin adopted affects the need for power. Applicant's witness testified that in its system planning TVA used the criterion of the loss-of-load probability equivalent one day in ten years.[36] In applying this criterion to a given power system, the computations are based on the forecasted

[31] Hub 11-12.
[32] Hub at 13.
[33] Hub at 15.
[34] Earstace N. Fields (Fields) Tr. 1862 at 9.
[35] Fields at 9-10.
[36] ER § 1.1-20.

load and the capacities and the outage rates of the generating units on the power system. TVA uses for its forced outage rates its own historical experience with the units on its system. In addition, energy supplied under interruptible contracts and energy received under interchange agreements with neighboring system are used in determining reserve requirements. Based on TVA's current construction schedule, a reserve requirement for the early 1980's of approximately 23 percent was calculated. The first unit should begin commercial operation in December 1981 and each succeeding unit should begin commercial operation at six-month intervals in order to maintain the reserve requirement of 23 percent.[37]

66. A Staff witness also performed a loss-of-load probability study for the winter peak periods 1981-82 through 1983-84 assuming annual compound growth rates of 5.5 percent to 8.0 percent. Based on that study, the first two units are needed by December 1982 to maintain the industry standard criterion of a loss-of-load probability equivalent to one day in ten years (Tr. 1907-8).

67. Purchased power is not a long-term solution to the system's generating requirements but is usually an interim procedure implemented by large systems to alleviate short-term capacity deficiencies. Based on assessments made relative to national and area load growth and the reliability and adequacy of the TVA system, the Staff witness concluded that the plant is necessary for the reliable operation of the TVA system.

68. Young called four witnesses relative to Contention 1. The first of these, Dr. John Z. C. Thomas offered a critique of TVA's load forecast. Dr. Thomas had no experience in load forecasting nor in any discipline relevant to load forecasting, expressly declined to predict TVA loads and conceded that he lacked qualifications for making load projections (Tr. 1735-6, 1748-9, 1756-63). He stated that TVA had not given any consideration to price effects or conservation in its load forecasts (Tr. 1752-3). However, the Applicant's Environmental Report discusses the effects of conservation and price elasticity on TVA's loads and how such effects were quantified in the TVA forecast.[38] The Board is unable to give Thomas' testimony any weight in the consideration of this issue.

69. The other witnesses presented by Young were Edward Czarnik, Dr. John B. Dicks, and Richard Davis, a TVA employee. While the testimony of these witnesses was offered with respect to both contentions 1 and 2, none of these witnesses quantified the conservation effect. Czarnik testified about solar energy but he offered no projection of the use of solar energy in the future (Tr. 3907). Dicks and Davis both testified about heat pumps. Neither offered a forecast of the use of heat pumps in the future (Tr. 4000, 1821).

70. The Applicant offered no direct testimony concerning alternative means

[37] ER 1.1-4, 1.1-21-23.
[38] ER §1.1.1.2.4.

to reduce demand (Contention 2). The Staff offered the direct testimony of one witness and Young called six witnesses, four of whom were TVA employees.

71. Davis, called by Young, testified that TVA has an extensive program in encouraging conservation of energy in the commercial and industrial sectors as well as in residential use, but that an expansion of TVA conservation program would not be an alternative to the Hartsville Nuclear Plants (Tr. 1816-7, 1829-31, 1847-8).

72. Young's other witnesses addressed energy conservation produced by solar heat and heat pumps. Mr. Czarnik testified about a solar heating device that he sells for home use. Mr. Czarnik could not estimate how much this solar heating device would be used in the future (Tr. 3907). The use of this home heating device is not an alternative for TVA, but rather an alternative for the consumer. The solar heating systems are not sold as a replacement for electric space heating, but as a supplement (Tr. 3924, 3937-8). These heaters could not be relied upon to reduce the peak winter load on the TVA system. His testimony is consistent with the testimony of a TVA witness that solar heating would not make a significant contribution to energy conservation before 1985 (Tr. 1720).

73. Young's witness, Dr. John B. Dicks, testified that if heat pumps were installed in 1.4 million homes in commercial and industrial establishments by 1985, an eleven percent reduction in TVA system demand would result (Tr. 3990). His analysis assumed an average heat pump efficiency in the TVA area 100 percent greater than resistance heating (Tr. 3996). At the time of TVA system peak, the temperature is generally very low, below 15°F. (Tr. 1822), and at such temperatures heat pumps generally have no greater efficiency than resistance heating (Tr. 1488, 1821-2). Thus, if every home in the TVA area were heated with a heat pump, the demands for residential heating on the TVA power system at winter peak would not be significantly less.

74. The Staff and TVA considered the use of heat pumps in their forecast (Tr. 1485, 1994). In addition, installation of heat pumps in private residences is not an alternative available to the TVA.

75. The three witnesses Young called regarding rate structure, all TVA employees, offered no testimony in support of the contention. Mr. Cudworth testified that the effect that peak load pricing would have on demand is largely unknown and cannot be quantified and that many utilities, including TVA, are currently engaged in studies to determine these effects (Tr. 2280-2). He concluded peak load pricing would not be an alternative to the Hartsville Nuclear Plant (Tr. 2282-3).

76. Thus, all of the evidence presented demonstrated that the alternatives listed in Contention 2 have been considered adequately by the Staff and Applicant.

77. In sum, the testimony regarding the need for power showed that the expert witnesses project a demand for power in the 1980's which will require the

addition of capacity equivalent to the plant. The Applicant and Staff differ as to the exact time of need. However, considerable uncertainty inherently exists in forecasting the need for power and the uncertainty is greater today than in the past (Tr. 1648, 1932-3). The Staff's and the Applicant's witnesses testified that the other's forecasts were reasonable (Tr. 1678-9, 1932).

78. The Board finds that each forecast is reasonable and concludes that the Intervenors adduced no evidence showing that the demand forecasts of the Staff and Applicant were unreasonable in light of future conservation measures and rate structures. The Board finds that the Applicant and Staff have not overstated the need for the plant and have adequately discussed measures designed to reduce the regional demand for electricity.

## B. ALTERNATIVE SOURCES OF ELECTRICAL ENERGY

79. The alternative-source-of-electric-energy contention of Young states:

"20. There are alternatives available for providing electrical energy which would be generated by the Hartsville Plants which have not been adequately considered or evaluated by the Applicant. Each of these alternatives will have a significantly smaller environmental impact. These alternatives are as follows:

(a) 'Clean coal' technologies such as MHD, fluidized bed boilers and conventional coal-fired plants with $SO_2$ scrubbers;

(b) Use of synthetic fuels from coal such as coal gasification and liquefaction;

(c) Use of domestic and commercial solid waste; and

(d) Use of solar power located at the ultimate user. The alternatives described above can be utilized by the Applicant in various combinations with each other and in combination with existing sources and plants under construction. These alternatives should not be rejected by the Applicant because any one of them alone cannot provide the electricity to be generated by the proposed Hartsville plants."[39]

80. The record contains extensive evidence concerning the relative costs of coal and nuclear generating plants, as well as evidence on the feasibility of several alternate methods of generating electricity. The Applicant presented two witnesses who testified concerning the economic and environmental comparison between nuclear plants and other generating alternatives. The Staff presented four witnesses: one testified concerning the economic comparison between coal plants and nuclear plants and also concerning the feasibility of the various other alternatives suggested by the contention; three others testified concerning the economic comparison between conventional coal-fired plants and nuclear plants

[39] Board's Order #2.

and also concerning the feasibility of the various other generating methods proposed by the contention. Additionally, a witness called by the Board, testified concerning the economic comparison between coal plants and nuclear power plants.

81. The contention is divided into three separate areas for discussion purposes: the comparison of costs of coal plants and nuclear plants; consideration of the various advanced technologies listed in the contention as "alternatives available for providing electrical energy" and the use of solar energy by the ultimate consumer as a replacement for electricity. The third area, use of solar power, is not an alternative to the Hartsville project and was discussed under the "need-for-power" contention *supra*.

82. The Board is faced with various sets of cost data. The Applicant presented two sets. The Staff presented four sets. The fourth one consisted of revisions made at the Hearing in which it revised its coal plant data (Tr. 4784). Furthermore, the data are for different time periods, (e.g., 30-year vs. 35-year plant life, 10-year levelized vs. 30-year levelized fuel costs) and utilize different methods of calculation of capital costs (e.g., interest component and depreciation factor vs. levelized costs). In addition, the basic input data (e.g., costs of constructing and fuel, etc.) are different. Further, the term "capacity factor" had different meanings, in different parts of the record (e.g., capacity factor in original FES; capacity factor in Staff Exhibit 10).

83. Applicant's two witnesses testified concerning the cost comparisons of coal plants and nuclear plants. Both are TVA employees actively engaged in the planning of new generating capacity for the TVA power system and have extensive experience in that area (Tr. 1409-11, and 3388 ff.). TVA operates a large power system which includes 63 fossil-fired units (Tr. 4657). It has had extensive experience with large fossil units (Tr. 4654-5, 4657) and presently TVA now operates nine coal units with capacities greater than 500 megawatts. To supply the fuel requirements for these 63 units, TVA purchases approximately 35 million tons of coal annually, comprising more than 6 percent of the nation's annual coal consumption (Tr. 3671-2, 3724). TVA has in operation or under construction four nuclear power plants (Tr. 3672) and has been active in purchasing nuclear fuel, uranium mining and milling, fuel enrichment, fuel conversion, and fuel fabrication for all of these plants (Tr. 3451-52).

84. TVA's experience in the construction of power plants and in the purchasing of fuel for both coal plants and nuclear plants was used extensively in TVA's estimates of the comparative economic costs of construction and operating fossil and nuclear plants to provide the generating capacity represented by the proposed plant (e.g., Tr. 3608, 3627, 3631, 3657, 3721, 4615, 4622, 4652-5, 4655-6, 4667).

85. A detailed cost comparison between three alternatives; a nuclear plant, a coal plant fueled with low sulfur coal, and a coal plant fueled with medium

sulfur coal employing a sulfur dioxide scrubber system[40] was presented (Tr. 3392-5, 3402-3, 3409-12). The estimated capital cost of constructing each of these alternatives was close, ranging from $519 per installed kilowatt for the proposed plant to $488 per installed kilowatt for a low sulfur coal plant[41] (Tr. 3410). These estimates were based on TVA's experience in the design and construction of nuclear and coal plants (Tr. 3631-2, 3663). Although in the past substantial differences in the capital cost between a nuclear plant and a coal plant existed, the new-source requirements of the Clean Air Act result in a new coal plant having a capital cost very close to the capital cost of a nuclear plant (Tr. 3392-4, 4670-2).

86. TVA estimated the fuel costs for these alternatives by estimating the market price for the fuels required during the operation of the plant (Tr. 3445, 4615). While TVA is actively engaged in acquiring uranium reserves and that acquisition program is expected to result in TVA's nuclear fuel cost being somewhat below the market price, nuclear fuel was assumed to be bought at the market price (Tr. 3445). Since it was based on conservative assumptions, the cost might be overestimated for some of the components[42] (Tr. 3731, 3744).

87. TVA's estimates of coal costs were based on its experience in purchasing coal, including recent negotiations on contracts for delivery of coal during the time span in which the proposed plant would be operating (Tr. 4615). TVA's estimates were also based on assumptions concerning the inflation of coal prices which might be expected to somewhat underestimate the actual coal costs (Tr. 4616).

88. A Staff witness testified that the NRC utilized the CONCEPT computer code to perform a "rough" check of the Applicant's cost estimates for the alternative plants (Tr. 4882-4). The CONCEPT analysis was in approximate agreement with the Applicant's cost estimates. The witness testified that the Applicant's estimate was a result of a detailed analysis. He chose the Applicant's estimate (Tr. 4896).

89. The Board adopts the Applicant's estimate.

90. The record indicates disagreement between the various witnesses on the value of the capacity factor to be used for the nuclear plant and for the coal plant. The Board analyzed the cost data and then computed the capacity factor of the nuclear plant which would result in equal cost per kwh of energy produced if the capacity factor for the coal plant was 1.0 (100%).

[40] ER § 9.2.0; App. Ex. 5.

[41] Applicant's Ex. 5, Table 1.

[42] Applicant's Ex. 5, Tables 2 and 3.

91. Table 1 of the Applicant contains the following 10-year costs (mills/kwh).[43]

| Component | Nuclear | Low Sulfur | Medium Sulfur |
|---|---|---|---|
| Investment | 7.3 | 6.8 | 7.0 |
| Fuel | 6.1 | 14.5 | 10.1 |
| O&M | 1.2 | 1.5 | 4.4 |

92. The capacity factor used by the Applicant for these data was 0.7 for all three plants. To compute the investment costs for a different capacity factor, one must multiply the investment cost in the table above by the ratio of 0.7 to the new capacity factor. The investment costs thus obtained are then added to the fuel and O&M costs in the table. Such calculations were made by the Board utilizing a coal plant capacity factor of 1.0 and an unidentified capacity factor, CF, for a nuclear plant. The results are:

**TEN YEAR LEVELIZED GENERATION COST DATA FOR A COAL AND A NUCLEAR PLANT**

**Capacity Factor Assumed:**

| | |
|---|---|
| Coal | 1.0 |
| Nuclear | CF |

| Component | Nuclear | Low Sulfur | Medium Sulfur |
|---|---|---|---|
| Investment | 5.1/CF | 4.8 | 4.9 |
| Fuel and O&M | 7.3 | 16.0 | 14.5 |
| TOTALS | 7.3 + 5.1/CF | 20.8 | 19.4 |

93. If the generation costs per kwh for the nuclear plant equals those for the coal plant, then the total costs indicated above must be equal. Setting the sums equal and solving for CF one obtains:

| Coal Plant with 100% Capacity Factor | Resulting Nuclear Plant Capacity Factor CF, for Equal Generating Cost |
|---|---|
| Low Sulfur | 0.38 |
| Medium Sulfur | 0.42 |

[43] Applicant Ex. 5, Table 1.

Thus, the nuclear plant produces energy cheaper than either coal plant independent of the capacity factor of the coal plant if the nuclear plant capacity factor exceeds 0.42.[44]

94. The capacity factor for nuclear and coal plants was discussed by several witnesses. Board witness Dr. Charles E. Roos presented data on capacity factors. The witness stated that he relied on information contained in ERDA report (ERDA 29-74) entitled "Operating History—U. S. Nuclear Power Reactors" (Tr. 3083 and 3151). He testified, relative to capacity factors for nuclear reactors, that: ". . . the probability of operation at 55 percent is within reason" (Tr. 3098); ". . . the large boiling water plants have a capacity factor of 47 percent." (Tr. 3099); and " . . . that the nuclear plants can operate at a 60 percent mean capacity factor is a reasonable assumption in terms of current data " (Tr. 3102). Dr. Roos compared these nuclear capacity factors with a 70 percent capacity factor for coal which he obtained from a technical publication (Tr. 4351).

95. Evidence on capacity factors was developed by the Staff on cross-examination of Applicant's witness relating to Applicant's Exhibits 5 (Tr. 4254) and 6 (Tr. 4258). Historical data for large units shows capacity factors for coal and nuclear to be very close (Tr. 4694). The 70% capacity factor chosen by TVA is higher than actual experience because TVA expects an improvement in capacity factors (Tr. 4706). Historical data from the Edison Electric Institute (EEI) shows average coal capacity factors for units in excess of 600 to 800 megawatts to be 59.7% (Tr. 4696). The witness stated that he knew of no better source for this information than EEI (Tr. 4705). Average capacity factor for nuclear units of the same size (600 to 800 megawatts) is 55% (Tr. 4696) and if more weight is placed on experience of recent years, the figure would be 58% or 59% (Tr. 4697).

96. Staff data indicate only 4 out of 43 nuclear plants operated with a capacity factor less than 45%.[45]

97. The Board in its Order of April 1, 1976, stated it would increase cost of plant construction by 10% to account for the possibility of plant hardening and possible relocation of the gas pipeline. The result is that the larger capacity factor, 0.42, becomes 0.46 which is still within values of expected capacity factor for nuclear plants. See paragraph 89, above.

98. In summary, utilizing the Applicant data, it can be shown that even if one assumes that the alternative coal plant has a capacity factor of 100%, the electricity produced from the nuclear plant will cost less if the nuclear plant operates at a capacity factor in excess of 42%. If the coal plant operates at less than 100% capacity factor, then the nuclear plant capacity factor for equal cost

[44] The Board also analyzed the Applicant's data for 35-year levelized costs rather than 10-year cost used above. The result was similar. The effect of hardening and pipeline relocation is considered below.

[45] Staff Ex. 8.

would be lower than 42%. Over ninety percent of the nuclear plants have operated with capacity factors in excess of 45%. The Board witness indicated that nuclear plants should operate with capacity factors in excess of 42%.

99. The Board finds that the plant will operate and produce energy at less cost than a coal plant even when the difference in capacity factors is considered.

100. While most of the testimony was devoted to an economic comparison between coal and nuclear units, NEPA requires that environmental considerations also be given appropriate weight in the comparison of alternatives. The Applicant's witness testified that the potential environmental impacts of nuclear plants are less than for a coal plant because nuclear plants have no significant sulfur dioxide, nitrogen oxides, or particulate emissions (Tr. 3397). Less land is needed for nuclear plants than for similar capacity coal plants. The impacts of mining and transportation of fuel are generally less for uranium than for coal. Fossil units generally produce greater quantities of wastes than do nuclear units (Tr. 3399). The relative environmental impacts of the two alternatives are quantified in the Environmental Report.[46]

101. The Staff presented a detailed quantification of the impacts in FES, Table 9.5.[47] The Staff concluded that the environmental costs for a coal plant are at least as great as for a nuclear station.[48]

102. Young's witness testified that the environmental impacts of coal-fired plants are less than the environmental impacts of nuclear plants (*Dicks*, following Tr. 3965 at 11). However, he made only the one conclusory statement and when cross-examined, he stated that the description of the plants contained in the documents filed in the proceeding was insufficient for him to determine the environmental impacts of the nuclear plant (Tr. 4002-3).

103. The Board finds that the selection of the alternative of a nuclear plant rather than a coal plant is fully justified on environmental criteria.

104. The testimony concerning the use of alternatives such as magneto-hydrodynamics, coal gasification, coal liquefaction, and fluidized-bed combustion was in general agreement. The Staff in the FES considered and rejected as not feasible a great number of alternatives, including solar, MHD, and wind power.[49] Applicant's witness stated that the various advanced generation alternatives such as MHD, solar, and fuel cells had been rejected at an early stage in the consideration of alternatives as not being feasible in this time period (Tr. 3390-1). Young's witness testified that fluidized-bed combustion, MHD, and the various other alternative emerging technologies listed in this contention are not demonstrated technologies (Tr. 3980-2). He stated that to utilize such new technologies would involve a "high risk" (Tr. 3978). The Staff's witness testified

[46] ER 9.2-36.
[47] FES 9-13.
[48] FES 9-11.
[49] FES 9-3, 4.

that MHD and fluidized-bed combustion have not been demonstrated and would not be available until about 1985. Synthetic fuels such as liquified and gasified coal are not now available and are not expected to be used to generate electricity when they become available. He also testified that utilization of solid waste is not feasible and not a demonstrated technology due to the lack of technology to achieve the required separation of solid waste[50] (Tr. 3814-20).

105. The Board finds that the Applicant, as well as the Staff, has adequately considered all of the feasible alternatives to the nuclear plant. The Board finds that none of the alternatives listed in the contention are feasible as a substitute for the plant, individually or in combination, within the time span of the construction of the plant.

## C. IMPACT ON HISTORIC RESOURCES

106. The question of the impact of the construction of the proposed plant on the historic resources of the site and of property contiguous to it was raised by Contention 24:

> "24. NRC and/or TVA have not properly evaluated and considered the total historical aspect of the McGee House, the graves on the proposed plant site, the proposed Dixon Springs Historic District and Dixona."[51]

107. Specifically the main historical and cultural resources are the McGee House, the Telman Dixon House called Dixona, Dixon Springs, the graves and markers associated with the McGee House and numerous archaeological deposits within the proposed plant's exclusion area.[52]

108. The McGee House was built by John McGee prior to his death in 1837. Mr. McGee is thought to be the fourth Methodist minister to serve in Tennessee, where he was influential in helping to begin "The Great Awakening" in Tennessee and Kentucky in the early eighteen hundreds.[53] The McGee House has been found by the Department of Interior to be eligible for inclusion in the National Register of Historical Places (Tr. 3884). The house is located in the construction area and, therefore, must be removed if the plant is to be built as planned (Tr. 3884).

109. Dixona is adjacent to the northeast part of the plant site. This house was built in 1788-1789 by Telman Dixon, a Revolutionary War Army Officer, whose grave is north of the house. The property is included in the National Register of Historic Places.[54]

---

[50] Murarka testimony, p.p. 3, 5, 7 after Tr. 3758.

[51] Intervenor Kyle asserted Contention 24 at prehearing procedures at the prehearing conference of August 5, 1975. When Kyle announced that he was withdrawing from the proceedings, Young *et al.* decided to sponsor the contention.

[52] ER App. K; ER 2.3-1-7.

[53] ER 2.3-1; Testimony of William M. Young at 4 following TR. 4197.

[54] ER 2.3-3, FES 2-8; Applicant's Ex. 3, p. 2.

110. Dixon Springs, a small community located approximately two miles east of the plant site, contains several houses dating from the early nineteenth century. A portion of the town has been placed on the National Register of Historic Places as an historic district.

111. To evaluate the impact on the historical, architectural and archeological resources on the site and its environs, the Applicant during the site selection phase (Tr. 3878), consulted with local representatives of the Methodist Church (Tr. 4167), the Tennessee State Historical Preservation Officer (Tr. 4131) and the Advisory Council on Historic Preservation (Tr. 4131-4133). In addition TVA engaged an architectural historian, Dr. James Patrick of the School of Architecture, The University of Tennessee (Tr. 3879, 4129), and other consultants including Dr. R. Bruce Dickson, Assistant Research Professor, Department of Anthropology, The University of Tennessee; Dr. Major C. R. McCoullough, Assistant Research Professor, Department of Anthropology, The University of Tennessee; and Mr. Steven J. Fox, Instructor of Anthropology, Motlow State Community College[55] to study the historical, architectural and cultural features of the site and the surrounding area.

112. The information gathered from these consultants was included in the preparation of the sections of the Applicant's Environmental Reports which discuss historical cultural and archaeological resources[56] and assess the potential impact on those resources resulting from construction and operation of the plant.[57]

113. The Staff's evaluation of these resources on the site and in the surrounding area is presented in Section 2.3.2 of its Final Environmental Statement. An assessment of the potential impacts on them resulting from plant construction is contained in Section 4.4.5 of the FES.

114. Applicant engaged archaeologists to investigate those archaeological resources on the proposed site which might be impacted by the construction of the plant.[58] The Applicant's initial archaeological consultant identified numerous potentially significant archaeological sites in his survey.[59] As the planning of the project proceeded, Applicant engaged another professional archaeologist to further investigate the archaeology of the site.[60]

115. A program has been undertaken by the Applicant to investigate and excavate as necessary the archaeological loci on the site. Under this program, all of the identified archaeological sites will be investigated before plant construction commences. Where possible, TVA will preserve those sites for future study

[55] ER 2.3-1, 4-5.
[56] ER 2.3-1 and Apps. G and K.
[57] ER 4.1-23-25.
[58] ER 2.3-4-5.
[59] ER 2.3-4-7; ER 4.1-23(b)-24; ER App. G.
[60] ER 4.1-23(b)-24; FES 2-10.

(Tr. 4145-46). Throughout this program the Applicant has been in consultation with the Tennessee State Archaeologist (Tr. 4146).

116. Pursuant to the National Historic Preservation Act[61] and the procedures established to implement the Act and Executive Order,[62] the Applicant, in consultation with the Tennessee Historic Preservation Officer, the Tennessee State Archaeologist, and the Advisory Council on Historic Preservation, has developed a plan for mitigating potential impacts on these resources. A Memorandum of Agreement including the Applicant's historical and cultural mitigation plan has been entered into by the parties described above.[63] The agreement constitutes the comments of the Advisory Council pursuant to Section 106 of the National Historic Preservation Act[64] (Tr. 4183-4). In accordance with the Memorandum of Agreement, the Applicant has agreed to make a detailed permanent record of the McGee House that will be preserved in libraries in the area. The Applicant investigated relocating the house either elsewhere on the plant site or nearby at a suitable location (Tr. 4073). Neither of these alternatives was pursued because it was thought that much of the historical and architectural integrity of the house would be lost by moving it from its original location (Tr. 4049).

117. With respect to the Dixon Springs community and Dixona, the Applicant is committed to assist local residents and county officials in exploring and implementing ways of controlling land use in order to preserve the historical character of the community. While pursuing this, the Applicant will continue to consult with the Advisory Council on Historic Preservation and the Tennessee Historic Preservation Officer.[65]

118. The Staff concluded that the mitigation plan, after independent consideration of the potential impacts of the plant on historical, architectural, archaeological, and cultural resources (Tr. 4205-6), would satisfactorily mitigate the impacts on these resources (Tr. 4204, 4206).

119. Young failed to present any testimony indicating that the Applicant or the Staff had not properly considered historical, archeological, or cultural resources in assessing the potential impacts of the project (Tr. 4189, 4198), and thus did not carry the burden of going forward on this issue.

120. The Board finds that the Staff's and the Applicant's evaluations of the historical, archeological, and cultural resources on the site and surrounding area and of the potential impacts of the plant on these resources were adequate.

---

[61] 16 USC. §470; Exec. Order No. 11593; 36 Reg. 8921.
[62] 36 CFR Part 800.
[63] Applicant Ex. 3.
[64] Staff Ex. 5.
[65] Applicant's Ex. 3.

121. The Board finds that the Applicant's plan will satisfactorily mitigate the impacts on the historical, cultural, and archeological resources on the site and in the surrounding area.

## D. WATER QUALITY

122. The water quality contention category contains two distinct issues; suspended solids and other chemicals. Uncontested water quality matters are discussed in Section V of this decision.

### 1. Suspended Solids Issue

123. The State of Tennessee advanced contentions 7 and 11 which state:

"7. In noncompliance with 10 CFR Part 51 concerning environmental impacts of the proposed plants, Applicant and Staff have failed to perform the required cost-benefit analysis on the alternative of treating suspended solids to reduce their concentration in the discharge."

"11. Applicant has failed to adequately design the proposed plants in that:

(a) it has not conceptually designed the treatment facilities in a manner so as to demonstrate that the Tennessee Water Quality Standards can be met and so as to give assurance that they will be met.

(b) it has stated the design will meet the standards in Table 5-13 of its Draft Environmental Statement which are inadequate to meet Tennessee Water Quality Standards."

124. The State indicated that contentions 7 and 11 overlap, and thus by agreement of the parties, contention 11 involves only suspended solids in the cooling tower blowdown discharged to the Cumberland River via the discharge diffuser (Tr. 559-60). The State's position is that an effluent limitation[66] on total suspended solids from the discharge diffuser of 40 mg/l average and 50 mg/l maximum is applicable to the proposed plant[67] and should be imposed by NRC as a condition to the construction permit. Contention 11(b) refers to the Applicant's Draft Environmental Statement which was not in evidence in this proceeding. The record contains no evidence that the State carried forward the proof of contention 11(b). Further, contentions 7 and 11(a) encompass and overlap 11(b) in the record. Therefore, in deciding 7 and 11(a), the Board has effectively decided contention 11(b).

---

[66] The terms "effluent limitation" and "effluent standard" have been used somewhat interchangeably in the record of this proceeding because the State utilizes the latter. The Board prefers the use of the term effluent limitation, consistent with federal (EPA) terminology.

[67] State's Ex's. 3 and 7.

125. The Staff in the FES states that operation of the plant as proposed by the Applicant would not result in a lessening of the ability of the Cumberland River to meet the water quality criteria set forth in the federally-approved "General Water Quality Criteria for the Definition and Control of Pollution in the Waters of Tennessee."[68] These criteria are set forth in State Exhibit 2 in Appendix B of the FES. The Applicant had the same opinion (Tr. 2324-31).

126. The State argued that these Water Quality Criteria would be violated by the daily average discharge of suspended solids in excess of 40 mg/1.[69] The State relied on a statement at the end of its federally-approved Water Quality Criteria that reads as follows:

> "3. All discharges of sewage, industrial waste, or other waste shall receive the best practicable treatment (secondary or the equivalent) or control according to the policy and procedure of the Tennessee Water Quality Control Board."

127. The State's position was that the secondary treatment requirement is equivalent to requiring that the concentration of suspended solids in the discharge not exceed 40 mg/1. Since the concentration of suspended solids in the discharge from the facility as proposed would exceed 40 mg/1, the State argued that the facility would be in violation of the State's Water Quality Criteria.

128. Cross-examination of the State's witness by the Applicant (Tr. 2366 through 2397) and by the Staff (Tr. 2398 through 2410) was directed to determining the basis for the State's position. The record does not support a clear resolution of the issue.

129. The Board does note that applicable Environmental Protection Agency (EPA) effluent limitations contain no limitation on suspended solids.[70] EPA's reason is provided in the Statement of Consideration for the October 8, 1974 regulation which indicated that:

> "The promulgated regulations contain no limitation on suspended solids discharged in cooling tower blowdown. The Agency has removed restrictions on the discharge of suspended solids from this source because they consist almost entirely of suspended solids not added by the industrial process."[71]

130. Evidence was presented by the parties to support two separate legal theories, one based on the hypothesis that the Applicant is legally required to

---

[68] FES §5.3.3.1.

[69] Testimony of Virgil Wayne McCoy on Behalf of the State of Tennessee following Tr. 2365.

[70] 40 CFR Part 423.

[71] 39 Fed. Reg. 36195.

comply with the State's effluent limitation, and the other on the hypothesis that the limitation is not applicable. With respect to the first theory, the Applicant and Staff presented witnesses to demonstrate that the plant could be constructed and operated in compliance with the State's effluent limitation without significantly affecting the cost of the facility. With respect to the second theory, the Applicant and the Staff presented witnesses to demonstrate that if the plant operates with the current design without complying with the proposed effluent limitation, no significant adverse environmental impacts would ensue from the resulting discharge of suspended solids.

**a. Suspended Solids Treatment Alternatives**

131. The Applicant investigated various means of treating cooling tower blowdown in addition to considering the alternative of not treating the blowdown.

132. The Applicant considered total recycle of cooling tower blowdown.[72] The least expensive means of accomplishing total recycle, which would involve filtration, softening, and reverse osmosis, would cost approximately $44 million for this four-unit facility.[73] Another treatment system considered consisted of a clarification and softening process utilizing magnesium carbonate with recycle of sludge. The supernatent from the process would be discharged to the Cumberland River via the discharge diffuser.[74] The Applicant determined that the present worth cost of this partial treatment scheme would be approximately $11 million for the plant.[75]

133. The Applicant also investigated a technique known as a Lamella settler which utilizes a large number of parallel plates suspended at an angle of approximately 60 degrees to the horizontal. As the water passes through these plates, the suspended material settles on and slides down the plates to the bottom for disposal. The clarified water leaves through the upper section (Tr. 2343). Applicant's witness testified that a capital expenditure of approximately $6 million would be required to meet the State's effluent limitation under all river conditions and cooling and discharge system characteristics (Tr. 2340).

134. Applicant's witness testified that the State's effluent limitation could also be met by constructing a settling pond of approximately 70 acres through which the cooling tower blowdown would pass prior to discharge to the river (Tr. 2340). The cost of constructing such a pond was not estimated in detail after reaching the conclusion that the cost would exceed that of a Lamella separator (Tr. 2340).

---

[72] ER 10.2-4 through 23.
[73] ER 10.2-16.
[74] ER 10.10-1 through 4.
[75] ER Table 10.2.1.

135. The Staff's witness indicated that sedimentation of suspended solids can be carried out either in settling ponds or through the use of mechanical clarifiers.[76] A Lamella gravity settler was the most promising treatment method available which could provide positive assurance of meeting the State's effluent limitation.[77] Utilizing EPA data, the capital expenditure required would be between 4.9 and 7.1 million dollars and the annual operating cost would be $120,000 for chemicals, materials, labor, and energy.[78]

**b. Impact of Suspended Solids**

136. The Staff had indicated in the FES that the plant as proposed by the Applicant would not result in a lessening of the ability of the Cumberland River to meet the federally approved water quality criteria of the State.[79]

137. Applicant's witness testified that the suspended solids from the intake water from the Cumberland River will be concentrated by a factor of 2 to 3.5 depending upon the operating conditions of the cooling tower system (Tr. 2320). Total evaporative losses from the system will be less than one percent of the mean annual flow of the Cumberland River, resulting in an increase in concentration of suspended solids of less than one percent. Under extreme low flow conditions, concentration of suspended solids at the edge of the mixing zone could approach a value of 10 percent to as much as 25 percent above the concentration in the upstream river water (Tr. 2321). Such an increase would have no significant adverse effect on the aquatic environment (Tr. 2321) and the State's general water quality criteria would not be violated by the discharge of suspended solids (Tr. 2324, 2328, 2330, 2331).

138. Staff's witness testified that the concentration of suspended solids at the edge of the mixing zone resulting from cooling water blowdown will not normally exceed ambient river concentrations by more than 10 percent and that it is highly unlikely that environmental degradation will ensue.[80]

139. The concentration of suspended solids at a number of points on the Cumberland River frequently exceeds the State's effluent limitation.[81] Because the Cumberland River biota have been subjected to extreme fluctuations in suspended solids (concentrations three to four times the State effluent limitation) for some time, the biota are probably adapted to these conditions and that

---

[76] Supplemental Testimony of Meyer Novick on Cost of Treating Suspended Solids following Tr. 4223 at 1 (hereinafter Novick).

[77] Novick at 1. ff Tr. 4223.

[78] Novick at 3. ff Tr. 4223.

[79] FES §5.3.3.1.

[80] Supplemental Testimony of R. D. Olsen on Contention 7 (and 11A) following Tr. 2447 at 1 (Hereinafter Olsen I).

[81] Olsen I at 2. ff Tr. 2447.

small additional increases produced by the plant will not produce a measurable change in the aquatic ecosystem.[82] The Staff concluded that the discharge of suspended solids from the plant as proposed by the Applicant would be environmentally acceptable even though it might be at times in excess of State effluent limitation (Tr. 2445).

140. The Board finds that the discharge of suspended solids by the plant as designed will not create a significant environmental impact and will not cause environmental harm.

141. The Board finds that the Applicant and the Staff have performed the "cost benefit analysis for the alternative of treating suspended solids to reduce their concentration in the discharge." Further, the Board finds, based on the cost estimates of the Applicant and Staff contained in the record, that the plant could be brought into compliance with the State effluent limitation by an expenditure of approximately $6 million which does not disturb the cost-benefit balance of the plant.

142. The Board finds that the Applicant has conceptually designed the treatment facilities to demonstrate that the State's effluent limitation for suspended solids could be met, if required.[83]

143. The above findings do not completely dispose of Contention 11a. The last part of Contention 11a, "and so as to give assurance that they (State's effluent limitation on suspended solids) will be met," has not been thereby resolved. This issue has been the subject of briefs and oral arguments.

144. The Applicant maintains that it is bound only by effluent limitations incorporated by EPA in the Section 402 (National Pollutant Discharge Elimination System) Permit issued for the facility.[84] The State's position is that the Applicant is bound by the State effluent limitation, and that any construction permit or limited work authorization should be conditioned on compliance with the limitation.[85]

145. The Board's jurisdiction on water quality is derived from the National Environmental Policy Act of 1969 (NEPA)[86] as implemented in 10 CFR Part 51. However, the Board's review of water quality matters is severely limited by the Federal Water Pollution Control Act of 1972 (FWPCA).[87] In particular,

---

[82] Olsen I at 2. ff Tr. 2447.

[83] In view of these findings the Applicant's motion to defer ruling on Contentions 7 and 11 is denied.

[84] "Applicant's Memorandum of Law Regarding the Federal Water Pollution Control Act and the State of Tennessee Effluent Standards" dated November 3, 1975.

[85] Updated Supplemental Proposed Findings of Fact and Conclusions of Law; see also NRC Memorandum of Law regarding Applicability of Tennessee Effluent Limitations dated 28 January 1976.

[86] 42 USC § 4331 *et. seq.*

[87] 33 USC § 1251 *et. seq.*

Section 511(c)(2) of the FWPCA indicates that the Board is prohibited (a) from reviewing any effluent limitation or other requirement established pursuant to the FWPCA, or (b) impose any effluent limitation other than any such limitation established pursuant to the FWPCA.[88] The exception to Section 511(c)(2) permitted by Section 401 of the FWPCA is not controlling in this decision because paragraph (a)(6) of Section 401 exempts Federal agencies from the provisions of Section 401.

146. The State of Tennessee maintains that the State's effluent Limitation on suspended solids is derived from Federally approved State water quality criteria and standards and is thus an effluent limitation established pursuant to the FWPCA. The State argues that the Board must impose that effluent limitation on the Applicant.

147. Effective January 30, 1976, the Nuclear Regulatory Commission and the Environmental Protection Agency implemented a Second Memorandum of Understanding and Policy Statement Regarding Implementation of Certain NRC and EPA Responsibilities.[89] Paragraphs 1 and 14 of the Second Memorandum of Understanding indicate that it shall apply to the instant application for license to the "maximum extent practicable." The new Policy Statement no longer requires denial by NRC of a license or permit if the facility will not comply with applicable limitations or other requirements promulgated pursuant to the FWPCA.

148. An effluent limitation on suspended solids does not meet the test of an exception in paragraph 3 of the Policy Statement. The inclusion or the absence of specific effluent limitations for suspended solids in the forthcoming NPDES Permit from EPA will constitute a matter promulgated or imposed pursuant to the FWPCA. Once the Section 402 NPDES Permit is issued by EPA this Board will have no authority to set different effluent limitations because those issued will be pursuant to the FWPCA.

149. Further, even if the Board had the authority under NEPA, unrestricted by the FWPCA and the Policy Statement, it could reach a decision to impose effluent limitations only if significant environmental impact would occur otherwise. To the contrary, the Board found above that no environmental harm will result from the discharge of suspended solids to the Cumberland River resulting from the operation of the cooling tower system.

150. In the spirit and clear direction of Congress in NEPA (and of the courts in interpreting NEPA) to comply to the fullest extent possible and not to foreclose future action by permitting construction which would foreclose that action, the Board will condition the issuance of the limited work authorization as well as any construction permit that might be issued as follows:

---

[88] 33 USC § 1371(c)(2).

[89] 40 Fed. Reg. 60115 (31 December 1975).

No construction activity shall be undertaken prior to the issuance of EPA's NPDES Permit which would preclude the subsequent construction of treatment facilities which would be required to meet the State's effluent limitation on suspended solids. This condition will be lifted when time for appeal of this decision or for any administrative appeal of the NPDES Permit has expired.

The Applicant and Staff agreed to such a condition (Tr. 5015-17).

### 2. Other Chemicals Issue

151. Intervenors Young *et al.* raised Contention 26(b) which states:
"26. petitioners contend that the operation of the cooling towers proposed for the Hartsville Plants will have a significantly adverse effect on:
(b) the river and the fish and other organisms in the environment because of the chemical discharge of chlorine and other chemicals therein."[90]

152. The Staff indicated that expected releases of biocide to the aquatic environment would probably not result in environmental damage[91] (Tr. 2517). In Amendment 3 to the Environmental Report[92] the Applicant stated that a molluskicide other than acrolein might be used for clam control in the RCW and ESW systems.[93] The Staff's witness testified that chlorine could be substituted for acrolein with no resulting environmental impacts (Tr. 2524).

153. The Staff witness further testified that the facility can be operated so as to be in compliance with State and Federal regulations with respect to chlorine, but that in view of some uncertainties concerning the calculations of dilution and degradation rates the Staff would recommend that certain monitoring requirements be imposed at the operating license stage.[94] The witness also stated that it was unlikely that the discharge from the plants would violate State or Federal effluent limitations (Tr. 2528).

154. The witness also testified with respect to the expected concentration of effluents from cooling tower blowdown. The testimony was responsive to Amendment 3 of the Environmental Report in which the Applicant had stated that the maximum concentration factor for natural chemicals in the cooling tower blowdown would be 3.5 instead of the originally proposed maximum concentration factor of 6.6.[95] The Staff had originally stated in its FES that

[90] Board Order #2.
[91] FES §5.5.1.2 at 5-24.
[92] ER §3.6.1.3.
[93] Supplemental Testimony of R. D. Olsen Concerning Contention 26(b) following Tr. 2524 at 4 (Hereinafter Olsen II).
[94] Olsen II at 3 and 4 ff Tr. 2524.
[95] ER §3.6.1.

discharge of natural chemicals at the higher concentration levels would not result in a measurable change in biota communities of the Cumberland River.[96] The Staff stated that its conclusion in that regard remained unchanged after an analysis of the expected concentration of effluents at the revised 3.5 concentration level shown in Staff Exhibit 12.[97]

155. The Board inquired as to limits on copper contained in the effluent (Tr. 2506). The Applicant indicated that the proposed plant could comply with State effluent limitations (Tr. 2955 through 2965) and that the EPA regulations with respect to copper did not apply to cooling tower blowdown (Tr. 2964). A Staff witness testified that there was a slight potential that State effluent limitations with respect to copper could be operated so as to preclude any chance of violation of State effluent limitations with respect to copper (Tr. 2986).

156. The Board finds that the discharge of chlorine can be in compliance with State and Federal regulations and that any uncertainty with respect to possible environmental damage can be satisfactorily addressed at the operating license stage. The Board also finds that the discharge of chemicals other than chlorine will not result in measurable environmental impact.

157. With respect to Contention 26(b) the Board finds that the Hartsville Plant will not have a significantly adverse effect on the Cumberland River, the fish and other organisms in the environment due to the discharge of chlorine and other chemicals.

## E. SOCIOECONOMIC IMPACTS

158. Several contentions were raised by the various intervenors that were relevant to the subject of socioeconomic impacts; however, prior to the taking of evidence on the socioeconomic considerations, the Town of Hartsville, Trousdale County, the State of Tennessee and the Metropolitan Government of Nashville-Davidson County withdrew their socioeconomic contentions as a result of settlement agreements. The Town of Hartsville filed its Notice of Withdrawal (ff Tr. 4104) based on a settlement agreement reached with the Applicant which had also been announced at the special prehearing conference on August 5, 1975. Trousdale County filed a Notice of Withdrawal (ff Tr. 4103) based on a settlement agreement reached with the Applicant which had been announced at the special prehearing conference on August 5, 1975. In the Board's Memorandum and Order dated October 17, 1975, the Board stated that it would give full effect to the terms of the settlement agreements between the Applicant and the Town of Hartsville and the Applicant and Trousdale County. The State of Tennessee also settled its socioeconomic contentions (4, 10, and 15) with the Ap-

[96] FES 5-24.

[97] Staff Exhibit 12 at 1.

plicant. The settlement is bound into the record following transcript page 3295. The Metropolitan Government of Nashville-Davidson County also arrived at a satisfactory settlement agreement with the Applicant. That agreement is bound into the record following transcript page 3292. The agreements generally provide for monitoring of various impacts and for negotiations between the various parties and TVA concerning appropriate mitigative action.

159. The Board has reviewed each of these agreements and finds that the Applicant has made reasonable efforts to mitigate socioeconomic impacts where possible.

160. Thus, the socioeconomic contentions which are the subject of proof at the hearing were limited to Contentions 32 and 33, which were advanced by Young *et al.* These contentions read as follows:

> "32. The construction of the proposed nuclear plants will unreasonably overburden the streets, highways and other transportation systems in Smith County with increased risk of motor vehicle accidents, damage and destruction to such streets, roads and transportation facilities, risk of injury to petitioners living and traveling in said counties, and increased tax burdens particularly upon those petitioners who live in and own property in said counties. Applicant and NRC Staff have failed to take adequate steps to minimize these impacts."
>
> "33. Petitioners contend that the influx of population during the construction of the proposed plants will place an undue burden on local sewerage, water, schools, and housing facilities and that Applicant and NRC Staff have not provided measures to minimize these budens."[98]

161. Young *et al.* introduced no evidence with respect to Contentions 32 and 33 relying on cross-examination to make their case.

162. The Applicant set forth its assessment and proposed mitigation plans with respect to the socioeconomic impacts of the plant in Section 4.2 of the Environmental Report.

163. The Staff analysis is presented in applicable portions of the Final Environmental Statement and is summarized on pp. 4-25 through 4-28 of the FES.

164. The Applicant based its analysis on a discussion of the construction forces that would be needed for the proposed facility, based on extensive TVA experience with other large construction projects. Also considered were the most recent experience by TVA in the Cumberland City coal burning steam plant and an analysis of the current labor market in the Nashville area (Tr. 2778).

### 1. Magnitude and Distribution of Impacts

165. The Applicant has projected the magnitude and distribution of socio-

[98] Board Order #2.

economic impacts based on number of workers needed for the project, labor availability in the area, the number of movers with families and size of those families. At peak impact, 2,700 of the estimated construction force of 5,000 employees are expected to move to locations in the vicinity of the plant. The employees moving into the area are expected to bring 3,400 persons with them. The resulting total population influx is 6,100.[99] The Applicant projected that the 2,700 "movers" are expected to reside in Smith, Trousdale, Wilson, Macon, and Sumner Counties[100] (Tr. 2778-9).

166. Certain measures to be implemented by the Applicant, such as intensifying recruitment of labor from the local area, instituting a vocational training program for local residents and developing an organized transportation program to increase the number of commuters is expected to reduce the numbers of movers into the area[101] (Tr. 2782, 3186-7). The assessment of individual impacts did not include the potential reduction in such impacts due to these measures.[102]

### 2. Individual Areas of Impact and Mitigation Strategies

#### a. Housing

167. The Environmental Report contains information on present housing resources in the impact area[103] and the projected distribution of housing needs for movers during the peak year of construction.[104] Based on the Applicant's surveys at its previous construction projects, it is estimated that at peak year the housing demands of project movers are expected to be: 1000 mobile homes; 700 single-family dwellings; 400 apartments; and 100 sleeping rooms.

168. Both the Applicant and the Staff indicate that the projected conventional housing needs will probably be met in Wilson and Sumner Counties, which have experienced higher growth rates and have a higher availability of conventional housing. Trousdale, Smith and Macon Counties have experienced low growth rates and it is not expected that a large pool of conventional housing will develop in these counties.[105]

169. Most of the mobile home development is expected to occur close to the site in Smith, Trousdale and Macon Counties. The mobile home development

[99] ER §4.2.1.1.
[100] ER §4.2.1.1; Table 4.2-4.
[101] ER Table 4.2-7.
[102] ER Table 4.2-5.
[103] ER Table 4.2-2.
[104] ER §4.2.2.1.
[105] ER §4.2.2.1; FES 4-17.

in these three counties might create unsatisfactory conditions if these developments are substandard (Tr. 3202-4). Mitigation measures include encouraging local governments to enact and enforce adequate and uniform mobile home regulations and working with these governments through a development assistance program to achieve an adequate development of housing facilities. These measures would include financial assistance to local governments in order to assist developers in providing suitable mobile home developments in an economically viable manner (Tr. 3202-4). The Applicant will also provide technical and planning assistance to such developers in the form of a conceptual design and plans which will enable mobile home developments to be convertible into permanent long-term residential developments at the end of their use for mobile homes (Tr. 3206).

170. To assure the sufficiency of high quality mobile home developments at economically viable rental rates, sewer and water trunk lines and other public facilities will be provided for those locations where mobile home park developments are expected. To the extent that the costs of providing such facilities are not covered by increased public revenues, the Applicant will provide funds to ensure that the affected local governments will not be burdened with paying for the excess, unutilized capacity provided for the mobile home parks.

**b. Water and Sewer Facilities**

171. There is an indicated potential deficiency in the capability of Smith County to provide the water facility services required by the project.[106] The projected need for increased connections to sewer facilities exceeds present capacity in Trousdale, Smith, Sumner and Wilson Counties.[107]

172. The Applicant has committed to work with the water and sewer systems in the five-county area to mitigate the impact of movers where existing water and sewer facilities lack sufficient additional capacity to accommodate the demands resulting from the project.[108] This commitment could be satisfied by providing the affected counties with assistance, either financial or in kind, to develop temporary facilities of sufficient capacity to accommodate the impacts of the movers in those areas, or in the form of funds for permanent facilities which could be brought on line in time to meet the influx of the construction workers. An example of such a situation is provided in the letter agreement between the Applicant and Mayor Donoho of the Town of Hartsville[109] (Tr. 3052).

---

[106] ER 4.2-34.
[107] ER 4.2-35.
[108] ER §4.2.3.4.
[109] State's Ex. 11.

**c. Education**

173. The projected number of school-age children moving into the impact area in the various years after construction begins is presented in ER Table 4.2-1. The ER provides enrollment projections for kindergarten and grades 1 through 12 for 1974-79 without the project, distribution of school-age children due to movers, the composite enrollment estimates in impact area schools, and impact area school membership and capacity information for 1974-75. Based on these estimates, impact area school systems have insufficient capacity to provide for the educational needs of project-related students.[110]

174. The Applicant's strategy to mitigate this impact includes a formal arrangement among the Applicant, the Tennessee Department of Education and the seven local school districts, that provides for the allocation of funds adequate to offset the direct impacts on education in the impact area with appropriate reductions made for existing space and equipment, other federal funds received to alleviate impacts, and reallocations within the State's budgetary process for education to the seven-school systems. The arrangement is intended to preserve the integrity and legal responsibility of each of the agencies involved.[111]

175. These agreements essentially provide that based on the Applicant's projections, the affected school systems will draw up their plans and assess their additional needs. These plans will be submitted to the Tennessee Department of Education for approval. The Tennessee Department of Education will then disburse sufficient funds or material to provide for these needs (Tr. 3158-66). The State of Tennessee and the Applicant have entered into a settlement agreement which is intended to assure that the State is not significantly affected by the necessity of providing funds to mitigate impacts due to project-related students.[112]

**d. Public Services**

176. The Applicant's analyses indicate that the local communities and counties in the impact area will incur additional expenses in providing services for project-related personnel. The Applicant indicates that the increased revenues accruing to some of the local governments due to the movers may more than offset the increased expenses[113] (Tr. 3044). However, at times the revenue

---

[110] ER §4.2.2.2; FES §4.4.2.3.

[111] ER §4.2.3.3.

[112] Settlement Agreement Between the State of Tennessee and Applicant, dated Oct. 21, 1975 at 3-9 following Tr. 3295.

[113] ER §4.2.3.5.

increases may not result until after the necessity for expenditures arises. Also, in some cases, the increased revenues will flow to the counties while the burdens of providing the services fall on the cities.

177. The Applicant has committed itself to provide necessary assistance—financial, technical, or equipment—in a timely manner so that small community budgets will not be significantly burdened by long- or short-term indebtedness incurred due to inmoving construction workers.[114] Initial assistance will be based on the estimates contained in the ER. Since many factors could cause significant differences between the estimates contained in the ER and the actual impact, Applicant has committed to continuing assistance based on conditions as they occur during the construction period.

178. A local committee of governments (the Hartsville Project Coordination Committee) has been established to monitor the continuing and changing impacts on local governments (Tr. 3041). The Applicant has provided funding to enable the Committee to hire a professional staff to assist in monitoring project impacts. The purpose of this program is to provide a mechanism for communication with the local communities in order to assess the success of the various mitigation programs and obtain recommendations for future activities (Tr. 3050-1).

179. The Applicant's program to mitigate impacts to local governments includes the repair of damage to city streets (Tr. 3056) and county roads (Tr. 3056) which is caused by the project;[115] the education agreements between the Applicant, the State, and counties (Tr. 3159); and, contracts between TVA and the Town of Carthage, TVA and Smith County, and TVA and Hartsville and Trousdale County[116] (Tr. 2786-91, 4690) for financing additional planning services for the affected areas.

**e. Traffic**

180. The Applicant projects that at peak employment 1,300 vehicles from the west and 300 vehicles from the east will arrive at the plant site. The average load will be 2.5 employees per car. The Staff, assuming two employees per car, arrived at a total additional traffic volume of 2,650 private vehicles (of which 80 percent would be on the day shift). Given the range of assumptions of employees per car, these estimates are in reasonable agreement.

181. Using either estimate, State Road 25 from the plant site westward to the intersection with U.S. Highway 231 (about six miles west of Hartsville) would exceed an acceptable peak hour traffic volume in one direction (level of service D) by a significant amount. This increased traffic could be expected to

[114] ER §4.2.3.5.

[115] State's Ex. 12.

[116] Young's Ex. 6, 7, and 8.

cause an increased potential for traffic accidents and congestion in the towns of Hartsville, Carthage, and Lebanon.[117]

182. The Applicant will mitigate the potential traffic impacts by developing a mass transportation system utilizing car pools, vans, and express commuter buses[118] (Tr. 3207-8).

183. The Applicant and the State have agreed to a settlement with respect to impacts of increased traffic.[119] The Applicant and the State will cooperate in the monitoring of traffic and in the adjustment of unacceptable traffic patterns. Additionally, procedures have been established whereby the affected governments and the Applicant will negotiate settlement for project-related damage to the roads and streets of the city and county[120] (Tr. 3035-9; 3056).

**f. Wind-down Impacts**

184. The potential for wind-down impacts, or those impacts which might result due to the relatively rapid decrease in worker population during the last years of the project, was raised during cross-examination (Tr. 2796, 3219). A staff witness testified that she would "expect the possibility of some deflationary wind-down effects at Hartsville" (Tr. 3320). In the private sector, this might include loss of business after a given business had expanded with the influx of worker population. In the public sector, she indicated that some communities have gone into debt to pay for public services for a temporary period and then been left with long-term debts long after the construction force had departed (Tr. 3320). A glut on the housing market might occur if temporary housing or mobile home developments were erected without provision for their removal (Tr. 3321; 3344).

185. An Applicant witness testified that such wind-down impacts should not occur (Tr. 2796). He reasoned that if the Applicant paid its share of the increase in the communities' capital expenses necessitated by the project then, after peak employment, the communities would be left with a larger infrastructure and a greater capacity to provide services, without the corresponding capital indebtedness (Tr. 2797). As an example, the Applicant is committed to provide some public facilities at the mobile home development parks. The Applicant agreed to assume responsibility for the cost of such facilities to the extent that such costs were not defrayed by increased public revenues (Tr. 2802-8).[121]

---

[117] FES §4.4.1; ER 4.2-26.

[118] ER §4.2.3.7.

[119] Settlement Agreement Between the State of Tennessee and Applicant, dated Oct. 21, 1975 at 1-3 following Tr. 3295.

[120] State's Ex. 12.

[121] Cf. State Ex. 11; Tr. 3053, 3206-7.

**g. Secondary Impacts**

186. Secondary impacts are impacts caused by the influx of service and trade personnel who serve the construction workers. An Applicant witness testified that while there are some "multipliers" that are sometimes used to estimate changes in secondary employment due to changes in primary employment, such multipliers as the relationship between primary employment and secondary employment varies from one situation to another depending on such factors as whether the primary employment is permanent or temporary and the state of the local economy (Tr. 3190-3). The witness testified that TVA has performed a detailed analysis of the local economy, looking at the availability of business capacity in a great number of businesses and that the result of the analysis was that in virtually all such businesses (with the exception of service stations) the area has an excess capacity (Tr. 3191). He indicated that during the peak year of employment approximately $13.6 million in additional consumptive spending is expected to enter the retail market in the impact area. During that same year an additional $3.4 million of additional retail trade is expected to occur in the Nashville area due to project employees. Estimated sales and sales tax collection due to the movers during the peak year is shown in the ER.[122]

187. The Applicant's witness indicated that based on its assessment of retail capacity in the five-county impact area, the increase of $13.6 million in trade activity would not necessitate a significant increase in retail trade capacity (Tr. 2816-7, 3190-3, 3224-6). Further, the increase in trade activity amounts to less than 6 percent of the existing retail activity in the area and this excess activity is unlikely to result in any significant increase in the number of trade establishments or the number of employees in the trade sector in the area[123] (Tr. 2816-7, 3190-3, 3223-6). The witness indicated that in order to serve the needs of the movers who will undoubtedly have different socioeconomic characteristics than some of the present population, local retail merchants may need to upgrade their merchandising and marketing techniques[124] (Tr. 3193); however, he indicated that no net in-migration is expected (Tr. 2816-7).

188. The Staff's witness testified that based on evidence that she had seen in other communities with large construction projects, she believed that there would be certain secondary impacts due to inmoving service personnel (Tr. 3274-5). She further indicated that based on her recollection of analyses done by others, an average value of 2.2 had been estimated as an appropriate secondary effect multiplier (Tr. 3275). However, the witness admitted that the subject of the potential for secondary impacts would be more familiar to an economist than to her (Tr. 3273, 3276, 3370).

[122] ER §4.2.1.3.
[123] ER §4.2.1.3.
[124] ER §4.2.1.3.

189. The Applicant's witness testified that based on TVA's analyses there would be no need for an in-migration of secondary or support personnel in order to serve the normal living needs of the construction workers (Tr. 2816). He indicated that many of these additional secondary service employment opportunities, such as gas station attendants, waitresses, or commercial sales persons, would be filled by area unemployed persons who would be hired first. A second source of persons to fulfill these secondary service jobs would be the dependents of the inmoving construction workers. In response to further questioning concerning secondary impacts at other construction projects, the witness indicated that he does not believe any such impacts would be detectable in comparison to the amount of business done by the total class of retail or service establishments in a given impact area (Tr. 3223). He noted that no significant net change in retail activity had been detected in the areas surrounding major TVA construction projects (Tr. 3223-4). He further indicated that the most important factor to be considered was the amount of net business acitivity in an area (Tr. 3223-4, 2816-7).

**h. Sociological Effects**

190. The Staff's witness testified that in her opinion there would be some irreversible changes in the social structure of the town of Hartsville due to the population influx but that whether or not these changes would be adverse would be a matter of judgment (Tr. 3270). She indicated that there might be other irreversible effects in the character of the community but that she had not made a study of those and did not know of anyone who had (Tr. 3271). She also hypothesized that the social structure of the area such as changes in family structure might occur but generally conceded that these changes are unquantifiable.

**i. Medical Services**

191. The Applicant will provide onsite occupational health and safety services for on-duty construction employees.

192. The Applicant inventories primary medical care, emergency medical, public health clinic, and environmental health services in the impact area. Because the rapid influx and subsequent departure of the large numbers of construction workers and their families could contribute to short-term stresses and possible deficiencies in the community medical service systems in the area, the Applicant and the Tennessee Department of Public Health have identified the deficiencies. The Applicant will mitigate them (Tr. 3215-6).

193. The Applicant will provide technical assistance and supplementary funding to assist the health department in establishing and operating a primary

medical care center in the impact area[125] (Tr. 3215-6); technical assistance and limited supplementary funding to local governments in collaboration with appropriate State and local agencies, to assure that the equipment, staffing, training, and communications of the emergency medical services meet applicable federal and State standards, and to assist in organizing their emergency medical services into manageable systems;[126] one-half the cost of an additional nurse for the Smith County Health Department;[127] technical assistance, and one-half the cost of an environmentalist for the first six years of the construction project (Tr. 3215-6).

### 3. Independent Review of the Socioeconomic Assessment

194. The Staff employed a consultant to review the Applicant's and the Staff's assessment (Tr. 3237). Although objecting to the testimony, intervenor's attorney stated on the record that the consultant was an authority and an expert (Tr. 3243, 3245). The consultant stated that the evaluation of socioeconomic impacts is a developing science and to her knowledge the FES was more comprehensive than any other statement in attempting to make the appropriate assessments (Tr. 3252). The consultant testified that all significant areas of mitigable impacts were addressed by the Staff (Tr. 3254).

195. One of the most significant aspects of the mitigation program is the Applicant's monitoring program. Applicant's witnesses testified that this program encompasses several aspects. First, a project coordinator will live in the impact area. This coordinator will make assessments of impacts, transmit his assessments, as well as those of the local citizens to TVA management and transmit information from the Applicant to the local citizens. Second, the Hartsville Project Coordination Committee composed of local government officials in the impact areas will monitor local impacts. The Applicant has funded the committee to enable it to hire a professional staff to coordinate these assessments (Tr. 3050-3).

916. A Staff witness testified that the important part of mitigating potential impacts is that the Applicant's mitigation commitment is "open-ended." He indicated that any reasonable costs for mitigating socioeconomic impacts would not be significant with respect to the total cost-benefit balance (Tr. 3364). An Applicant witness indicated that the socioeconomic mitigation program cost was estimated at $5 million (Tr. 2792).

197. The Staff consultant placed great emphasis on the monitoring provision set forth in paragraph 17 of Section 4.5.2 of the Staff's FES, describing it

[125] ER 4.2-38 and 39.
[126] ER 4.2-39.
[127] ER 4.2-39.

as a "landmark" in social impact assessments. That paragraph as amended (Tr. 3235) reads as follows:

> 17. Within six months of the beginning of construction activities on site, TVA shall develop and submit for NRC review, a program to monitor and evaluate socioeconomic impacts and the effectiveness of mitigating actions. Continuing information and evaluation shall be provided to the Staff on a semiannual basis.

198. Because the precise nature and extent of many of the socioeconomic impacts discussed in the testimony cannot be precisely measured at this time, the monitoring provision makes allowance for unforeseen impacts and for those which may change in intensity as the project progresses. However, the provision is not specific enough.

199. The record shows that there was conflicting testimony as to the expected influx of persons other than construction workers (primary employment)(Tr. 3191 and 3272-5). Therefore, a second sentence is added to paragraph 17 to read as follows:

> "This program shall include but not be limited to an assessment of effects resulting from primary as well as secondary employment."

200. To be certain that the monitoring program is not terminated prematurely, the Board will also require that the following words be added to the end of the last sentence in paragraph 17:

> ". . .until the third report has been submitted following the issuance of any operating license for the last unit."

201. Therefore, paragraph 17 of Section 4.5.2 of the Staff's FES is amended by the Board to read as follows:

> 17. Within six months of the beginning of construction activities on site, TVA shall develop and submit for NRC review, a program to monitor and evaluate socioeconomic impacts and the effectiveness of mitigating actions. This program shall include but not be limited to an assessment of effects resulting from primary as well as secondary employment. Continuing information and evaluation shall be provided to the Staff on a semiannual basis until the third report has been submitted following the issuance of any operating license for the last unit.

### 4. Board Findings

202. The Board finds that the Staff and the Applicant have taken adequate steps to assess and mitigate the socioeconomic impacts of plant construction including but not limited to those listed in Contentions 32 and 33, *supra.* In addition, the Board finds that the monitoring provision suggested by the Staff

and amended herein will appropriately assess future impacts which are difficult to accurately assess at this time.

203. The Board finds that some wind-down impacts may be anticipated during the latter phases of and after the construction activities proposed have been completed. These may occur both in the public sector resulting from inmovers and in the private sector as a result of voluntary and perhaps speculative increases in services offered in anticipation of profit. The Board finds that the Appliant has proposed a reasonable and sufficient mitigation program with respect to the public wind-down impacts. Further, the Board finds that the Applicant has no reasonable method of controlling possible private wind-down impacts.

204. The Board finds and orders that the construction permits(s) be conditioned to include all of the mitigating action planned by the Applicant[128] including the two additional Staff recommendations, as amended.[129]

205. The Board finds that the cost of mitigating socioeconomic impacts would not be significant with respect to the total cost-benefit balance.

## F. TRANSMISSION LINES

206. Contention 34 which was sponsored by Young states:

> "34. The Applicant and NRC Staff have failed to adequately assess the risk of injury to health of persons and animals in the vicinity of the proposed double 500 kV transmission lines on separate towers, or to adequately minimize the risk of such injury. The Applicant has failed to adequately consider the adverse biological effects on persons and animals of exposure to such transmission lines."[130]

207. Applicant's evidence included testimony from Mr. August C. Pfitzer, Jr., an electrical engineer; Dr. Robert L. Craig, a medical doctor with graduate education in public health and Director of TVA's Division of Medical Services; Mr. Drafts Furman Murphy, Supervisor of Environmental and Design Services in TVA's Division of Transmission Planning and Engineering; and Mr. Samuel I. Simon, Supervisor of TVA's transmission line maintenance program (beginning at Tr. 2621). The Staff presented testimony from Mr. Meyer Novick (beginning at Tr. 2684). Young *et al.* presented no direct evidence but relied on cross-examination. Other evidence concerning this contention is contained in Applicant's ER §3.9 and 5.6 and in FES §5.5.2.

208. The Board finds that Young *et al.* failed to raise a substantial conflict in the testimony with respect to electric field intensity health effects and failed

[128] FES §4.5.1(4).
[129] FES §4.5.2 subparagraphs 15 and 17 at 4-29.
[130] Board Order #2.

to uncover any serious inadequacy in the testimony. The testimony is uncontroverted. The Board further finds that Young failed to sustain the burden of moving forward with the contention.

209. The transmission line routes for the proposed facility consist of 3 corridors which are described in the FES[131] and the ER[132] designated corridors 1a, 2 and 3. (The Applicant revised its proposal for corridor 1 to 1a pursuant to the Staff recommendation in the FES.) The corridors will require about 5400 acres for rights-of-way, 450 of which are now used for existing transmission facilities.[133] An additional 115-mile, 500 kV transmission line proposed as an interconnection between Browns Ferry Generating Station in Alabama and the proposed union substation in Mississippi[134] was originally reported to be made necessary by the Hartsville facility. As clarified, the Browns Ferry Union line is required for overall system reliability prior to operation irrespective of whether the plant is constructed (Tr. 2619-20).

210. The Board finds that the Browns Ferry Union line is not associated with the plant, and therefore is not within the subject matter of this proceeding.

211. The Applicant's transmission corridor clearing and maintenance practices had been the subject of ongoing disagreements between NRC and TVA. The State of Tennessee had also contested one aspect of Cedar Glade communities from the effects of the proposed transmission line corridors and construction practices. The Cedar Glades are unique floral communities occurring as open and wooded glades in the Nashville basin of middle Tennessee. The State and the Applicant reached agreement by accepting the conditions proposed by the Staff in the FES[135] as supplemented and modified by the conditions in the testimony of Staff's witness (following Tr. 2738). The State withdrew Contention 3 (Tr. 2742).

212. The Board finds that the environmental impact of the transmission lines will be adequately mitigated by adoption of the Staff's conditions in the FES and as modified (following Tr. 2738). Those conditions are to be included in any construction permit which may issue.

213. The Staff also proposed the following condition:

> All metal structures that are located within a designated transmission line right-of-way, or in close enough proximity (taking into account the capability of the particular structure to build up a hazardous electrostatic charge) to the designated right-of-way so as to present an induced voltage hazard, shall be identified and adequately grounded. It shall be the responsibility of the Applicant to assure that such grounding is accomplished prior

[131] FES §§2.7.2, 3.8 and 4.3.3.
[132] ER §§3.9 and 4.3.
[133] FES 2-25.
[134] FES §2-25.
[135] FES §4-5.

to the operation of the transmission lines for all identifiable hazards. Additional hazards shall be promptly corrected as identified during operations.[136]

214. The purpose of such a condition is to minimize shock hazards. The Staff's witness testified that based on his review of the literature, a possibility exists that a large improperly grounded structure, such as a long metal fence, in close proximity to the right-of-way, could present a shock hazard.[137]

215. With regard to TVA's grounding practices, Applicant's witness testified that the width of Applicant's transmission line rights-of-way is established in accordance with the safety clearances prescribed by the National Electrical Safety Code (Tr. 2659).

216. Although the witness acknowledged that a charge might build up on an ungrounded structure such as a long fence which is off the right-of-way, he indicated that based on the Applicant's experience in working with transmission lines, any charge that would be built up might present an annoyance but would not be a safety hazard (Tr. 2661). The Applicant has been operating 500kV transmission lines since 1965 and presently has approximately 1800 miles of such lines. During this time, the Applicant has not received any serious substantiated claims of shock hazards (Tr. 2673). The witness further testified that the Applicant's normal practice is to ground-off the right-of-way structures on which a charge might develop when such a structure is brought to TVA's attention and the owner does not object. To his knowledge, in all situations the landowner wanted TVA to ground the structure (Tr. 2663).

217. Based on the evidence presented, the Board finds that a sufficient charge could build up on structures off the right-of-way which would result in a slight shock but not a safety hazard and that the Applicant has in the past corrected such situations voluntarily.

218. Furthermore, the Board has been shown no authority that would indicate that the Applicant could force a landowner to allow the Applicant to correct the situation. Hence, the Board could only correct the possible problem by requiring the Applicant to purchase sufficient right-of-way to ensure that regardless of the structure, no shock hazard would exist. Such a requirement would be beyond the requirements of the National Electrical Safety Code. The Board rejects the proposed condition.

## G. ALTERNATIVE SITES AND SYSTEMS

219. The alternative site contention reads as follows:

---

[136] Supplemental testimony of Meyer Novick Contention 34—Consideration of the Risk of Electrical Fields Created by 500 kV Transmission Lines at 8 following Tr. 2684.

[137] *Ibid* at 7.

"16. Intervenor contends that Applicant's selection of the Hartsville site over other sites was not justified."

220. The Applicant had commenced its direct case with respect to this contention (Tr. 3457) and after cross-examination, Young, *et al.*, withdrew Contention 16 regarding alternative sites (Tr. 3554).

221. The Applicant maintains a regular program of identifying sites suitable for power generation. In determining a preferred site for a particular facility, engineering, economic and environmental factors are balanced.[138] For the Hartsville facility, the Applicant gave preliminary consideration to forty-eight sites. The preliminary screening process included study of maps, field reconnaissance, aerial surveys, land use and ownership assessment, consideration of proximity to existing transmission lines, site access, proximity to population centers, seismology, availability of cooling and makeup water and water use compatibility, topography, flooding conditions, foundation conditions, and proximity to significant recreational, wildlife and cultural areas.

222. Based on engineering and economic analysis, the Applicant eliminated forty-four of the forty-eight candidate sites. Factors that entered into this decision included proximity to the New Madrid fault belt foundation requirements, elevation below possible maximum flood level, low plant grade, and marginal cooling water availability. The NRC Staff agreed that the four sites warranted detailed consideration. The four sites were Antioch (Site No. 10), Hartsville (Site No. 14) located on the Cumberland River, Council Bend (Site No. 30), and Rieves Bend (Site No. 36) located on the Duck River.[139]

223. The seismology and meteorology of all four sites were similar and therefore were not considered critical items for comparison of the sites. The dominate factors were water availability and economic cost associated with the transmission system and site development. The average daily flow of the Cumberland River near Hartsville and Antioch is between five to ten times greater than the Duck River near the Council Bend and Reives Bend locations.

224. The Board addressed the following question to the NRC Staff and the Applicant.[140]

1. Among the alternatives considered for the proposed plant, have you considered multiple siting of the four units?

225. The Applicant testified that it considered multiple siting but did not pursue it because a single site involved only one PSAR and ER, savings in land use, and design effort (TR. 3555). The Applicant also considered that using the

[138] FES §9.1.2.3.

[139] FES, Figure 9.4.

[140] Board Question 1 following Tr. 547.

same design for each unit on the same site would probably speed the construction schedule (Tr. 3555). The Staff also concluded that a single site was advantageous. The reasons advanced were: Savings would be realized with respect to site-specific engineering and construction costs and only one environmental assessment would be required (Tr. 3558). The amount of land required for one two-unit site is nearly as large as that needed for a four-unit one. This is so principally because of exclusionary zone requirements. It also appears that the land required for transmission line routes may be greater for a two-unit site (Tr. 3558-9). The record shows that socioeconomic impacts would probably be less at a single site than at multiple sites for the same number of units (Tr. 3559).

226. The Board finds that multiple siting would not be a better alternative than the use of a single site.

227. The Board finds that the Applicant and Staff have adequately considered alternative sites.

228. The Applicant and the Staff have discussed various alternatives to the plant systems: Heat dissipation,[141] intake design,[142] discharge systems,[143] rail access,[144] sanitary system,[145] transmission line routes.[146] The alternative of no plant is not discussed because the Board has found a need for the power. Alternative types of plants have been discussed above.

229. The Board finds that the consideration of the alternatives to the plant systems has been adequate.

## IV. SITE SUITABILITY

### A. BACKGROUND

230. The letter requesting the issuance of a limited work authorization (LWA) contains an itemization of the work proposed to be performed under the LWA.[147]

231. The Board finds that all of the proposed work is within the scope of the activities permitted under 10 CFR §50.10(e)(1).

232. The proposed site of approximately 1,940 acres straddles the county line between Trousdale and Smith Counties of Tennessee on the north bank of the Cumberland River on Old Hickory Reservoir.[148] The plant will consist of

[141] ER 10.1.2.8; FES 9-14, 15.

[142] ER 10.9-1 through 10.9-3; FES 9-15, 16; Tr. 2549, 2563-5, 2990-1, 3002.

[143] ER 10.10-1 through 10.10-4; FES 9-16; Tr. 2570, 2600.

[144] ER 10.12-1a, Olsen and Echols, after Tr. 2574.

[145] ER 10.6-1 through 10.6-12; FES 9-17.

[146] ER 3.9-1 through 3.9-18, 10.11-1 through 10.11-8; FES 4-11 through 4-14; 9-17.

[147] Applicant Ex. 1.

[148] ER §2.1; Site Suitability Report by the Office of Nuclear Reactor Regulation (hereafter "Site Suitability Report"), following Tr. 1053, at 1.

four identical boiling water reactors of a size, type, and design similar to that reviewed and approved for other nuclear power plants now in operation or under construction. Each unit will have a thermal output of 3,579 megawatts and a net electrical output of 1,233 megawatts. The site evaluation was conducted for a maximum thermal power of 3,758 megawatts per unit[149] (Tr. 9938).

## B. POPULATION, EXCLUSION AREA AND LOW POPULATION ZONE REQUIREMENTS

233. The boundary of the site property has been designated by the Applicant to be the boundary of the exclusion area. Based upon the 1970 Census of Population, slightly more than 12,000 persons live within 10 miles of the Hartsville site, with over 9,600 between 5 and 10 miles. The resident population is very sparsely distributed with no community of 1,000 or more within 5 miles of the plant. Two small towns are located between 5 and 10 miles of the plant. Hartsville is 5 miles to the northwest with a population of 2,243; Carthage is 10 miles to the southeast with a population of 2,491.[150]

234. The Applicant has selected a low population zone (LPZ) with an outer boundary distance of 3 miles. The 1970 resident population within the low population zone was 625 (a population density of 22 persons per square mile) and by 2020 is expected to be 1,085 (a population density of 38 persons per square mile). No significant transient populations live within the LPZ. Taking into consideration the present population and its projected growth within the LPZ, no unusual features have been identified which would prevent the development of adequate emergency measures regarding the evacuability of the low population zone.[151]

235. The nearest population center of 25,000 or more persons is Nashville, Tennessee. The Nashville-Davidson County urban area, with a population of 448,444 in 1970 is 29 miles to the west-southwest of the proposed site. This distance exceeds the 10 CFR Part 100 requirement that the population center distance be more than one and one-third times the low population zone distance. Although some future expansion of the Nashville urban area is projected, neither this growth nor the development of any other population center is expected to occur over the lifetime of the plant at a distance close enough to the proposed site to affect compliance with the requirement of 10 CFR Part 100.[152]

236. The Applicant has defined the minimum-exclusion-area-boundary distance to be approximately 3,600 feet (1,097 meters) measured from the turbine building nearest the site boundary to the nearest point on the site

[149] Tr. 4438; Site Suitability Report at 1.
[150] PSAR 2.1-29; Site Suitability Report at 2.
[151] PSAR §2.1.3.3, 2.1.3.4; Site Suitability Report at 3.
[152] PSAR §2.1.3.5; Site Suitability Report at 3.

boundary.[153] While this distance may be appropriate for routine effluents, loss-of-coolant-accident effluents would not originate from this point but from the reactor building. For this reason, the Staff's standard practice is to measure the minimum-exclusion-area-boundary distance from the edge of the reactor building. Therefore, the minimum-exclusion-area-boundary distance is approximately 4,000 feet (1,220 meters) measured from the edge of the reactor building nearest the exclusion-area boundary.[154]

237. The analysis of the radiological consequences of postulated design basis accidents to demonstrate acceptability of the site in accordance with 10 CFR Part 100 exposure guidelines will be performed for an ultimate thermal power level of 3,758 megawatts. Because the minimum-exclusion-area distance and low-population-zone distance are comparable with previously approved facilities,[155] the Board finds that there is reasonable assurance that adequate engineered safety features can be provided to satisfy the exposure guidelines of 10 CFR Part 100 for reactors of the type and size proposed for Hartsville.

238. The Commission's regulations require that an Applicant have the authority to control all activities in the exclusion area during plant operation. Title to all tracts except OHNP-7 is vested in the United States and Applicant has full possession and custody of these tracts.[156] The mineral rights associated with each of the vested tracks were acquired with acquisition of title except for certain mineral leases. These mineral leases will be obtained by Applicant through purchase or condemnation.[157]

239. The East Tennessee Natural Gas Company (ETNG) owns Tract OHNP-7 and maintains and operates a compressor station on the tract in connection with a gas pipeline. Unless ETNG's operations in the exclusion area have to be relocated as a result of the radiological health and safety hearings before this Board, the Applicant does not plan to purchase this tract. ETNG will have access to the compressor station during construction and operation of the plant. If necessary to assure the health and safety of the ETNG personnel, ETNG has agreed to evacuate its personnel from the exclusion area upon notification from TVA.[158]

240. The exclusion area will not be traversed by any public highways or railroads at the time of plant operation.[159] The Applicant has executed agreements with both Smith and Trousdale Counties which will result in the abandonment or relocation offsite of the several small county roads which

[153] PSAR §2.1.2.
[154] Site Suitability Report at 4.
[155] Site Suitability Report at 4.
[156] Site Suitability Report at 4-5.
[157] Site Suitability Report at 5.
[158] Site Suitability Report at 5.
[159] PSAR §2.1.2.1; Site Suitability Report at 6.

presently cross the exclusion area.[160] A part of the exclusion area along the southern boundary of the proposed site will be accessible to fisherman and boaters. The Applicant's plant security force will control the waterway in an emergency. Additional control procedures will be arranged with the appropriate State agency. All activities at the visitor's center within the exclusion area associated with this facility will be under the Applicant's control.[161]

241. The Board concludes that reasonable assurance exists that the Applicant will have the necessary authority to determine all activities within the exclusion area, as required by 10 CFR Part 100.

## C. NEARBY INDUSTRIAL, TRANSPORTATION, AND MILITARY FACILITIES

242. No chemical plants or other industries processing hazardous materials are in the vicinity of the site. The closest industries are several manufacturing plants located in the town of Hartsville, approximately 5 miles northwest of the site. They produce wearing apparel, footwear, and other fabricated products. No military bases or activities are in the vicinity of the site.[162]

243. At present, there is no barge traffic past the site. Future barge traffic is expected to be associated with the plant and will be controlled by the Applicant. Traffic carrying hazardous material, e.g., gasoline, exists on Tennessee State Highway 25. The hazardous material shipments are infrequent and the distance of the highway from the plant structures exceed 4,000 feet.

244. The Board finds that shipment of hazardous materials on the Highway 25 will not interfere with the safe operation of the plant.[163]

245. In response to the Board's interest in aircraft operations, the Staff presented additional details at the hearing.[164]

246. Based on the Board Order of March 18, 1976, the issue of whether the plant structures will need to be strengthened (hardened) against the possible effects of an airplane crash, will be decided at the health and safety hearings. The Affidavits discussed in said Order are sufficient for the Board to find that the plant can be hardened.

---

[160] Site Suitability Report at 6; Applicant's Ex. 12 and 13 at Tr. 4593 and 4595.
[161] PSAR §2.1.2.1; Site Suitability Report at 6.
[162] Site Suitability Report at 7.
[163] Site Suitability Report at 7.
[164] Testimony by Herbert M. Fontecilla, on behalf of Staff, ff. Tr. 4303.

247. The Board finds that reasonable assurance exists that the site is suitable with respect to aircraft operations.

248. The Applicant indicated that the additional cost associated with designing and constructing plant structures to provide protection for the postulated aircraft accident was estimated to be $90,000,000 in 1981 dollars, not including licensing and engineering effects and construction delays. This represents 3.6% of the cost of the plant as estimated by the Applicant.

249. A gas pipeline of the East Tennessee Natural Gas Company (ETNG) passes through the northern part of the proposed site. The closest point of approach of the pipeline to a safety-related plant structure is approximately 2,650 feet. The pipeline is 22 inches in diameter and carries natural gas at a maximum pressure of 720 psig. A compressor station is located on the pipeline approximately 3,400 feet northeast of the nearest plant structure.[165] The Staff has not completed its evaluation of the consequences of a failure of the pipeline on the radiological safety of the plant.[166] The analyses of the pipeline performed to date by the Applicant assumed that the contents were pure methane and that the Applicant would have notice of any change from pure methane (Tr. 987, 993-4, 997-8). Uncertainty exists with respect to the present composition of the gas and whether the present composition, once determined, can be varied without prior notice to the Applicant and the NRC Staff[167] (Tr. 993-9, 1009-14, 1033-41).

250. Based on the Board Order of March 18, 1976, the issue of whether the gas pipeline should be relocated will be decided at the health and safety phase of the hearing. The affidavits discussed in said Order are sufficient to establish the costs of relocating the pipeline, if necessary. The Applicant indicated that the cost of relocating the pipeline as well as the design and construction of an associated compressor station would be $13 million in 1981 dollars. The Staff estimated the cost of relocating the pipeline at $7.1 million in 1981 dollars.

251. The Applicant is committed to having the pipeline relocated if it is determined that the gas pipeline in its present location constitutes an unacceptable risk to the safety of the plant[168] (Tr. 1027, 3900).

---

[165] Site Suitability Report at 8.

[166] Site Suitability Report at 9.

[167] Board Ex. 1.

[168] Site Suitability Report at 9.

252. The Board finds that this agreement provides a sufficient basis for determining that the site is suitable at this time.[169]

## D. METEOROLOGY

253. The preoperational-onsite-meteorological-measurements program, initiated in February 1973, measures wind speed and direction and temperature at the 33-ft and 150-ft levels. A permanent meteorological measurements program will be installed later. The Applicant has submitted twelve months of data in accordance with the recommendations of Regulatory Guide 1.23. These data are reasonably representative of conditions that would be expected to occur over the long term.[170] Atmospheric dispersion conditions at the site are comparable with the median of other sites reviewed by the Staff.[171] The design conditions

---

[169] Under Sections 4 and 25 of the Tennessee Valley Authority Act of 1933, 48 Stat. 58, *as amended,* U.S.C. §§831-831dd (1970; Supp. III, 1973), TVA is authorized to exercise in the name of the United States of America the right of eminent domain even if the owner is a public utility; *United States* v. *Carmack,* 329 U.S. 230 (1946); *United States ex rel. Tennessee Valley Authority* v. *Powelson,* 319 U.S. 266 (1943) (condemnation against the Southern States Power Company); *Illinois Central Railroad* v. *Tennessee Valley Authority,* 455 F.2d 308 (6th Cir. 1971)(condemnation against railroad) (Tr. 1055-7, 4236-4239).

The State raised the possibility that Federal Power Commission (FPC) approval might be required to move the pipeline (Tr. 4685-8). Section 7(b) of the Natural Gas Act, 15 U.S.C. §717f(b), does require prior FPC approval for an interstate natural gas company to *abandon* all or any portion of its facilities. However, cases construing language in the Interstate Commerce Act similar to that in §7(b) of the Natural Gas Act hold that condemnation of a regulated facility does not constitute an abandonment which requires the approval of the regulatory agency, *U.S.* v. *Certain Tracts of Land,* etc. 225 F. Supp. 549 (D. Kansas 1964)(condemnation of railroad by the United States); *City of Alexandria* v. *Chicago, Rock Island & Pacific Railroad Co.,* 311 F.2d 7 (5th Cir. 1962)(taking of railroad by City in satisfaction of city paving lien). These condemantion cases are consistent with holdings in cases involving factual situations other than condemnation that an "abandonment" requiring regulatory agency approval must be a volitional act and not due to circumstances beyond the control of the regulated entity, *Myers* v. *Arkansas and Ozark Railroad Corp.,* 185 F. Supp. 36, 41 (W.D.Ark. 1960)(impossibility of operation due to severe rain damage); *Zirn* v. *Hanover Bank,* 215 F.2d 63, 69 (2d Cir. 1954)(repossession of locomotives); *ICC* v. *Chicago, Rock Island & Pacific Railroad,* 501 F.2d 908, 911 (8th Cir. 1974)(alleged weather conditions causing unsafe railroad bed). The Board notes that if the pipeline is to be moved as a result of voluntary agreement between the Applicant and ETNG, no apparent problem in obtaining FPC approval for the abandonment of the old facilities and construction of new facilities exists. In a recent FPC decision directly in point, the FPC had no difficulty summarily approving the relocation of a gas pipeline necessitated by construction of a dam by the U.S. Army Corps of Engineers where the gas company was reimbursed for all reasonable costs of relocating its facilities, North Penn Gas Co., Docket No. CP 75-208, FPC "Findings and Order After Statutory Hearing Permitting and Approving Abandonment and Granting Certificate of Public Convenience and Necessity" (June 4, 1975).

[170] Site Suitability Report at 10-11.

for the proposed plant are consistent with the Staff's design basis tornado characteristics in Region I (which includes the site) given in Regulatory Guide 1.76.[172]

254. The Board finds that no meteorological characteristics are known that would preclude acceptability of the site for nuclear reactors of the size and type proposed.

## E. HYDROLOGY

255. Old Hickory Reservoir will provide makeup water for the natural-draft cooling towers, and for the emergency cooling water spray ponds. While operations of upstream dams and Old Hickory Dam at times have caused reserve flow in the reservoir at the site, the Staff and the Applicant agree that there is sufficient storage for an operational water supply. A backup 30-day shutdown and cooldown water supply independent of the river will be provided in the spray ponds to insure an adequate water supply for safety-related purposes.[173]

256. The potential for flooding of the site from several sources has been considered by the Applicant and independently by the Staff[174] (Tr. 4454-75). The design basis flood level in the Cumberland River is estimated to be 533 feet at the site with an additional 7.4 feet caused by setup and runup from wind-wave action[175] as the result of assuming simultaneous, instantaneous complete failures of upstream dams at the peak level of the standard project flood[176] (Tr. 4459). The Staff and the Applicant agree that the plant grade of 545 feet will adequately protect the safety-related facilities from flooding from this source[177] (Tr. 1284).

257. In response to the Board's query, the Staff and Applicant provided the basis for assuming that the simultaneous failure of all upstream dams is the controlling event rather than a sequential or "domino" failure mode. As discussed by the Staff and Applicant[178] (Tr. 4453-75), the domino failure might be the worse case if all dams were in series (along the same continuous stream) and if the dams were of sufficient size such that the failure of one would cause

---

[171] Site Suitability Report at 10; Section 2.6 of the FES.

[172] Site Suitability Report at 11.

[173] Site Suitability Report at 11; Testimony of Ronald G. Domer following Tr. 821 at 5-6 (hereafter Domer).

[174] Testimony of Donald W. Newton following Tr. 821 (hereafter Newton); Domer at 4-5; Applicant's Ex. 9; Site Suitability Report at 12.

[175] Newton at 4; Testimony of Harrey E. P. Krug, following Tr. 4477 at 4 (hereafter Krug).

[176] Newton at 4; Domer at 4; Krug at 2.

[177] Site Suitability Report at 12; Krug at 4.

[178] Applicant's Ex. 9.

the failure of the next downstream dam with increasing flood severity[179] (Tr. 4478). For the Hartsville site the domino mode is not the worse case because the major dams (in terms of their ability to cause high levels at the site) are not in series with each other[180] (Tr. 4478).

258. The safety-related structures, systems, and equipment associated with the nuclear plant, e.g., reactor, auxiliary, fuel, control, diesel generator, radwaste building, ESW pumping station and electrical equipment structure, and the diesel generator fuel oil storage tanks, will be designed to remain dry and to withstand the consequences of the design basis flood. Other plant areas, such as the turbine building and switchyard, would be flooded during this extremely remote event. All equipment essential to the safe shutdown of the plant will be contained within the dry structures, including the onsite power supply.[181]

259. The Board finds that the controlling event is the instantaneous failure of upstream dams and that the plant grade will adequately protect the safety-related facilities from flooding from potential dam failures.

260. The site drainage system, including the roofs of safety-related buildings, will be designed such that the local probable maximum precipitation (PMP) will not constitute a threat to safety-related facilities. Most access openings to safety-related facilities will be sufficiently above plant grade as to be unaffected by the PMP. For those which are at or close to plant grade, the Applicant purposes to grade the site to insure that PMP runoff cannot enter these openings.

261. The Board finds that this design is acceptable for protection of the plant from local flooding.

262. Groundwater in the site vicinity occurs in the shaley limestone bedrock, which ranges from 5 to 90 feet below ground surface. As shown by groundwater contours, movement of groundwater from the plant will be towards Old Hickory Reservoir and only under land owned by the Applicant[182] (Tr. 3858-66). Therefore, no offsite wells can be affected by a spill of contaminants onto the ground. The closest water intake in the Cumberland River is 6.4 miles downstream. A spill of contaminant into the river will be diluted to the extent that no unacceptable effects will occur through the usage of this water intake.[183]

263. The Board finds that no hydrological characteristics are known which would preclude acceptability of the site for nuclear reactors of the size and type proposed.

---

[179] Krug at 3, ff. Tr. 4477.

[180] Krug at 3-4.

[181] Domer at 4 ff Tr. 821.

[182] Site Suitability Report at 12-13.

[183] Site Suitability Report at 13; Testimony of William M. Hewitt following Tr. 4404.

## F. GEOLOGY

264. The Hartsville site is located on the northeast flank of the Nashville Basin Section of the Interior Low Plateaus Physiographic Province. The major feature of the geologic structure in the Nashville Basin region is the Nashville Dome, a broad elliptical flexure whose axis trends N30°E that developed in the Paleozoic age. The immediate site area is underlain by sedimentary rock unit of Ordovician and Cambrian age. Those units at the surface are the Hermitage formation, an argillaceous limestone, and the Carters limestone. These limestone units have experienced some solutioning, but this effect has been minimal in the immediate site area.[184]

265. Sufficient exploration drilling has been or can be done to ensure the identification of any Karstic solution zones which might present a hazard to the plants.[185] The adequacy of the Applicant's specific drilling identification program will be evaluated by the Staff in the Safety Evaluation Report and presented before the Board prior to approval of any safety-related construction. Any such zones will be treated by grouting and/or excavating solution zones and backfilling with concrete.[186]

266. The nearest mapped fault, located 36 miles west of the Hartsville site, has a mapped length of four miles, and exhibits less than 50 feet of displacement. Latest movement along this and other similar structures in the region occurred no later than early Cretaceous, 140 million years ago. The Beech Grove lineament, a 90-mile lineament which was discovered 10 miles east of the proposed site utilizing LANDSAT (formerly ERTS) imagery, is currently undergoing extensive evaluation by the Applicant. Early investigations by the U. S. Geological Survey, Groundwater Branch, indicate that anomalous groundwater conditions, faulting, solutioning and mineralization may be associated with this feature. Current belief is that this lineament is evident due to the alignment of seven stream drainage systems and could be a zone of ancient (400 million years ago) faulting. Such a basement feature could have developed during regional uplift and formation of the Nashville Dome during the Paleozoic Age.[187]

267. The Staff's present position, based on its review to date, with regard to the Beech Grove lineament is that it is probably related to a deep-seated fault in the basement rock of the Nashville Dome of Tennessee. Although no surface faulting can be specifically associated with this lineament after an extensive evaluation, the possibility of undetected faulting along it still exists. However,

---

[184] Site Suitability Report at 13; Testimony of Robert W. Allen following Tr. 821 (hereafter Allen).

[185] Site Suitability Report at 14.

[186] Site Suitability Report at 14.

[187] Site Suitability Report at 14.

the Staff's review to date indicates that, even if this lineament is assumed to be a fault, it cannot be considered a capable fault (Tr. 1222-26, 1253-4).

268. Applicant's geologist testified that the lineament, even if assumed to be a fault, was not a capable fault (Tr. 945-46, 4486) and was geologically old—about 400 million years old (Tr. 4486, 4492).

269. The Board finds that the lineament exhibits none of the characteristics normally associated with capable faults; is geologically old within the meaning of 10 CFR Part 100, Appendix A, §III(g); and assuming an ancient basement fault exists, that fault is not a capable fault within the definition of a capable fault in 10 CFR Part 100, Appendix A, §III(g).

270. During exploration drilling in the site vicinity, two so-called "collapse structures" were encountered: one a quarter mile south of the site and the other approximately one and one-half miles south. These features are about 350 feet in diameter and appear to be steep-sided pipes containing healed, brecciated material. The origin of these structures is believed to be related to paleokarst solution cavity development in the Knox Group. The youngest formation involved in the collapse structure nearest the site is the Fort Payne Limestone of Mississippi Age (320 million years ago). Evidence exists that this formation was dropped vertically in the structure, and therefore had to be present over this location at the time of the collapse. Erosion has removed the Fort Payne Limestone from the site area and evidence indicates that 25 miles of retreat has taken place in the last 100 million years, an average of one mile every four million years. An estimated minimum age of the formation of the collapse is 5.2 million years. Borings in these structures indicate that healing is complete and no topographic expression indicates their presence. Two deep holes (850 feet deep) were drilled in the center of the location of each reactor building. These holes bottomed in the Knox Group and showed no evidence of solutioning or collapse.[188]

271. Although several anomalous geologic occurences exist in the area, the geologic conditions of this site are reasonably well understood. The bedrock structure in the site area is not complex.[189]

272. The Board finds that the site has no apparent geologic problems not amenable to engineering solutions and is, therefore, suitable for the location of nuclear power plants.

## G. SEISMOLOGY

273. The Hartsville site is located in the Central Stable Region tectonic province.[190] This region extends from Canada on the north to the Coastal Plain

[188] Site Suitability Report at 16-17.
[189] Site Suitability Report at 17.
[190] Allen at 6; Staff Report at 17.

overlap on the south, and from the Appalachian fold belt on the east to the Mississippi Embayment on the west. Earthquake induced accelerations at the site are determined by assuming that the largest historic earthquake in the region or province occurred adjacent to the site and then attenuating the largest known earthquake in adjoining provinces or regions from the nearest point in their boundary to the site.

274. The Staff testified that no historical earthquake activity was reported within 20 miles of the site, and the largest earthquake within approximately 100 miles had an epicentral intensity of MM VI. In the Central Stable Region both the Applicant and Staff reported that the largest known event was the Anna, Ohio earthquake of March 8, 1937 which had an intensity of MM VII-VIII.[191]

275. For design purposes, the Applicant assumed that the Anna, Ohio earthquake of 1937 would accur adjacent to the site.[192] The Applicant also assumed that an MM X-XII event equivalent to the New Madrid earthquakes of 1811-1812 would occur 110 miles west of the site along the boundary of the New Madrid faulted belt and would be attenuated to the site.

276. The Applicant's witness testified that detailed studies of the New Madrid 1811-1812 earthquakes were conducted to determine the eastern boundary of the tectonic province in which the New Madrid earthquakes could recur and the attenuation characteristics of the earthquakes. Their interpretation resulted in an MM VIII intensity at the site for design purposes.[193] The Staff testified that the postulated New Madrid earthquake would be expected to produce an intensity MM VIII-IX at the site and that the postulated New Madrid earthquake is almost exactly the same distance (110 miles) from the site as the New Madrid earthquake postulated for the Clinton Power Station. The Staff concluded that, as with the Clinton Power Station, the postulated New Madrid earthquake poses no problem which cannot be recitified by using established engineering practice.[194]

277. The Board finds that no seismological conditions exist which would preclude construction of nuclear power units at the Hartsville site.

## H. FOUNDATIONS

278. The Hartsville site topography is gently rolling and a peripheral scatter of hills extends 200 to 300 feet above plant grade. The Applicant purposes to construct two dual-unit nuclear plants, one on each site of a natural drainage feature which empties into Old Hickory Lake, a man-made impoundment on the

[191] Allen at 6; Site Suitability Report at 17.
[192] Allen at 6.
[193] Allen at 7.
[194] Site Suitability at 17.

Cumberland River. Plant grade is set at approximately 100 feet above normal pool level for Old Hickory Lake.[195]

279. Overburden in the immediate plant site area averages about 10 to 12 feet in thickness and consists of residual silts and clays. Bedrock consists of limestone. The top 20 to 40 feet is the Hermitage formation which is thinly beeded argillaceous limestone containing shale and weathered partings. Underlying the Hermitage is the Carters formation which consists of thick-bedded fine-grained limestone. The groundwater table is generally near the rockburden interface in the plant site area.[196]

280. Exploration work completed has revealed that solution cavities are present in the limestone bedrock. However, they are generally confined to that zone of rock lying above a meta bentonite seam which rests at about 30 feet below the Hermitage-Carters contact surface. The meta bentonite seam is one to several feet in thickness and is believed to have acted as an impermeable barrier protecting the limestone below from the percolation and downward movement of groundwater during solutioning periods. Although solution in the immediate plant areas is not expected to be extensive, an investigation and treatment program will be completed to assure a satisfactory foundation for the proposed nuclear power plant. The actual excavation for the foundation is intended to be exploratory and therefore foundation investigations will be carried out continuously during and after the excavation phase. Karstic solution zones which might present a hazard to the plants will be treated by grouting and/or excavating solution zones and backfilling with concrete.[197]

281. Most Category I structures will be founded on limestone bedrock or on engineered free-draining crushed stone fill extending to bedrock. Presently, Applicant proposes that the Essential Service Water (ESW), electrical equipment structures and the Plant B diesel generator fuel storage tanks be founded on Category I compacted earth fill. Settlements under these structures are expected to be acceptable; however, these assumptions are to be verified by additional field and laboratory tests. In the event the earth fill is deemed unsuitable for supporting these structures, free-draining crushed stone will be used in its place.[198]

282. Four ESW spray ponds will be constructed between the two proposed power plants. An earth-bench fill will be constructed across the drainage feature. The four spray ponds will then be excavated into the bench fill. Portions of the pond excavation on the upstream end of the bench fill will extent below the limits of the fill into the original undisturbed soil and into bedrock. Each of the

[195] Site Suitability Report at 18.
[196] Site Suitability Report at 18.
[197] Allen at 5-6; Site Suitability Report at 18-19.
[198] Domer at 6; Site Suitability Report at 19.

four spray ponds will be lined with a 10-foot thick clay blanket consisting of the more impervious and plastic materials available from required excavation and borrow sources. A rock fill with filter and rainage transitions, placed on bedrock, will be used to form a downstream supporting shell to stabilize the spray-pond bench fill.[199] Test fills will be constructed so that the design of the rock fill section may be completed. In addition, the spray ponds will be filled a year or two prior to plant operation so that the leakage of the spray ponds may be monitored.[200]

281. The Board finds that adequate engineering solutions exist for the site to be suitable for foundations for nuclear power plants of the size and type proposed.

## I. BOARD FINDINGS ON SITE SUITABILITY

284. The Board finds that there is reasonable assurance that the proposed site is a suitable location for the four nuclear power reactors of the general size and type proposed from the standpoint of radiological health and safety considerations under the Atomic Energy Act and the rules and regulations promulgated by the Nuclear Regulatory Commission pursuant thereto.

# V. COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT AND 10 CFR PART 51

## A. BOARD'S NEPA RESPONSIBILITY

285. Pursuant to the Notice of Hearing[201] and 10 CFR Part 51, this Board must determine whether the requirements of Section 102(2)(A), (C), and (D) [now (E)] of NEPA and of 10 CFR Part 51 have been complied with in the proceeding; independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken; and after weighing the environmental, economic, technical, and other benefits against environmental costs, and considering available alternatives, determine whether the construction permits or limited work authorization should be issued, denied, or appropriately conditioned to protect environmental values.

## B. ENVIRONMENTAL REPORT AND FINAL ENVIRONMENTAL STATEMENT

286. In accordance with 10 CFR Part 51, the Applicant submitted its Envi-

[199] Domer at 6.
[200] Site Suitability Report at 19.
[201] 39 Fed. Reg. 38013.

ronmental Report.[202] The Application and ER were docketed on September 13, 1974. Notice of Receipt of Application for Construction Permits and Facility Licenses and Availability of Environmental Report was published at 39 Fed. Reg. 38014 on October 25, 1974.

287. The Staff prepared a Draft Environmental Statement (DES) which was issued on December 30, 1974. Copies of the DES, with requests for comment, were sent to appropriate Federal, State, and local agencies. A Notice of Availability of the DES was published on January 3, 1975,[203] and provided that interested persons could, on or before February 18, 1975, submit comments on the ER and the DES for consideration by the Commission. The notice further stated that Federal and State agencies were being provided with copies of the ER and DES, and that any comments from these agencies would be made available for public inspection.

288. After receipt and consideration of comments on the DES, the Staff prepared a Final Environmental Statement (FES).[204] The FES includes a discussion of comments received on the DES. The FES concludes, after weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs, and considering available alternatives, that the construction permits for the plants, subject to certain conditions for the protection of the environment, should be issued. Notice of Availability of the FES was issued on June 23, 1975.[205]

289. The Board received evidence which addressed the impact of the proposed plant on the environment. Some of these impacts we discussed earlier in this decision under contested issues. The remaining impacts are discussed below in two categories; those associated with construction of the proposed plant and those associated with its operation.

## C. IMPACTS OF CONSTRUCTION

290. The impacts of construction of the proposed plants are discussed under the categories of terrestrial and aquatic ecology, radiological impacts, and transportation facilities, *infra.* Historic resources, socioeconomic and transmission line construction impacts were discussed under the earlier section on contested issues.

### 1. Terrestrial Ecology

291. The site is located in a relatively sparsely populated area approximately

[202] Applicant Ex. 2.
[203] 40 Fed. Reg. 824.
[204] Staff Ex. 1.
[205] 40 Fed. Reg. 27305.

40 miles northeast of Nashville, Tennessee at Cumberland River Mile 285. About 300 to 350 acres of the 1,940-acre site will actually be utilized for the plant and related facilities.[206] Another 350 to 400 acres of land will be temporarily disturbed for construction facilities and borrow areas. Of the 750 acres on site that will be disturbed for permanent and temporary construction, only 25 acres are wooded (about 3 percent of the disturbed land area and 12.6 percent of the site's forest).[206a]

292. The Board finds that the removal of this forest will not constitute a significant impact to forest resources of the region.

293. In the recent past the site has been used primarily for agricultural purposes, mostly for pasture land and hay production with some row crops.

294. The Board finds that the removal of this land from agricultural purposes for the life of the plant will not represent a significant impact to the food production resources of the State or the Nation.

295. A rare plant species, the marbleseed, has been located in several locations on the site.[206b] The Applicant is committed to exclude all construction activities from these areas.[206c] Thus, no significant impacts to that species should occur due to plant construction.

296. Some minimal adverse impacts on terrestrial fauna on the site will be caused by clearing and construction activities.[207] However, the Board finds that these effects should be temporary and will utlimately result in no impacts.

### 2. Aquatic Ecology

297. Some adverse impacts on the aquatic ecology of the Cumberland River will be caused by onsite erosion and dredging activites. These effects will be restricted to the aquatic system in the vicinity of the construction zone and will probably be observed as a reduction in primary productivity and a displacement of the tenthic and piscine communities.[208] The Staff concluded that the implementation of Applicant's proposed impact limiting construction procedures should assure that all portions of the aquatic ecosystem will recover from these impacts.[209]

298. At the Prehearing Conference (October 14, 1975) the Board inquired as to the status of Environmental Protection Agency regulations issued October 8, 1974, entitled "Subpart D–Area Runoff Subcategory":[210]

---

[206] ER §2.1.
[206a] FES §4.3.1.1.
[206b] FES §4.3.1.1.
[206c] FES §4.3.1.1.
[207] ER §4.1.1.2; FES §4.3.1.2.
[208] FES §4.3.2.1.
[209] FES §4.3.2.1.
[210] Following Tr. 547.

"5. What is the current status of the matter relating to whether Section 423 Subpart D (40 CFR 423, Subpart D) of EPA's regulations (Area Runoff Category) applies to plants other than operating plants (FES Section 5.3.3.2)? (Applicant and Staff)."

299. The Applicant stated that uncertainty as to the applicability of these regulations existed (Tr. 2967) and that the regulations were not being applied consistently among various EPA regions (Tr. 2968). Applicant could meet the requirement of 50 mg/l effluent limitation (on total suspended solids, Tr. 2972) during construction (Tr. 2969) at a capital cost of $4.5 million, and an annual cost of $868,000 (Tr. 2971). The Applicant described its plans for the control of construction runoff in the event that the EPA regulation is found not to apply[211] (Tr. 2975). The Staff acknowledged the uncertainty with respect to the applicability of the runoff regulation (Tr. 3678). The Staff was satisfied that the Applicant's proposed practices with respect to control of construction runoff were environmentally acceptable.[212] The Staff's estimated costs were 2.7 million dollars capital costs and $30,000 per year operating and maintenance costs (Tr. 3682). These estimates are lower than those made by the Applicant.

300. The Board finds that runoff from construction activities as the facility is presently designed will be environmentally acceptable in light of required monitoring programs. The Board further finds that if the Applicant is required by EPA to meet the effluent limitations set forth in 40 CFR 423.40 *et seq.* (Area Runoff Subcategory), it will not cause the costs to exceed the benefits of the plant.

### 3. Radiological Impacts

301. During the period between the startup of Unit 1 and the completion of the plant, construction personnel working on other units, 2, 3 and 4, will be subject to radiation exposure from any operating unit. The Applicant has estimated that the maximum individual dose rate to a construction worker will not exceed 30 millirem per year. The total dose to construction workers is estimated to be less than 50 man-rem per plant and 100 man-rem for the site.

302. The Board finds these estimates to be reasonable and this impact to be insignificant.

### 4. Transportation Facilities

303. Providing adequate site access will require the relocation of the existing county road that connects River Road with State Highway 25. The relocated

[211] ER §4.1.2.1.

[212] FES §4.3.2.1 and 4.3.3.

road will be approximately 1.6 miles in length and will require approximately 17 acres of land for construction. This area has been examined by biologists and no unique nor sensitive habitat was observed.

304. The Board finds that the relocation of this road results in no significant adverse impacts.

305. The Applicant proposes to build rail-barge transfer facilities at the plant so that rail cars can be ferried up the Cumberland River (about 43 miles) from the Gallatin Steam Plant. The rail-barge facilities onsite will consist of a 250 by 40 foot barge slip with cells, a 170 foot articulated bridge that can be locked in place for transferring loads between the barge and the 0.9 mile track extension from the barge slip to the plant yard tracks.[213] A conventional 150-by-70 foot barge slip will be constructed adjacent to and upstream of the rail-barge facilities for handling heavy shipments that come by barge but not rail car. Similar rail-barge facilities will be provided at the Gallatin Steam Plant site on land already owned by the Applicant.[214] The dredging of the barge slips at two separate locations (Gallatin and Hartsville) will result in temporary increase in river turbidity and sedimentation. The impact will not be significant and will not permanently alter the general preconstruction condition of the waterway.[215]

306. During construction approximately 2200 rail cars will be brought to the site by barges over about a five year period. Thus, assuming only one car per barge, the maximum number of barges per year would be approximately 500[216] (Tr. 4540). Since present traffic on the Old Hickory Reservoir between Gallatin Steam Plant and the Hartsville site is minimal, the Staff anticipates that the operation of the rail-barge system will result in observable environmental impacts especially during plant construction.[217] Such impacts would be those normally expected due to the navigational use of a river waterway. Some disruption of water fowl population inhabiting the affected areas is expected.

307. The Board finds that no significant adverse impacts will result from the operation of the rail-barge system and that said system is environmentally and economically more advantageous than the originally proposed rail-only system.

### 5. Construction Impact Mitigation

308. The Board finds that the measures and controls of the Applicant and those conditions stated in Section 4.5.2 of the FES (as amended herein) adequately mitigate the adverse environmental effects of construction.

---

[213] ER 4.1-9; Staff supplemental testimony on Rail-Barge Facilities following Tr. 2574 at 1 (hereafter Echols-Olsen).

[214] ER 4.1-10; Echols-Olsen at 1.

[215] Echols-Olsen at 3.

[216] Echols-Olsen at 3.

[217] Echols-Olsen at 4-5.

## D. IMPACTS OF PLANT OPERATION

The impacts of operation of the proposed plant are discussed under the categories of land and water use, operation of the heat dissipation system, postulated accidents, radiological releases, intake structure, fish kill, employment, and compliance with water quality criteria and effluent limitations. Certain water quality impacts associated with operation of the plants are discussed under contested issues, *supra.*

### 1. Land Use

310. The 1,940-acre plant site will be converted from agricultural to industrial use. About 7,800 acres will be used for transmission line rights-of-way. Approximately 2300 acres of the proposed rights-of-way are forested and will have to be cleared and regrowth of trees prevented.[218]

### 2. Water Use

311. The plant will consume, through evaporation, approximately 115 cfs or approximately 0.7 percent of the average flow of the Cumberland River past the plant site.[219] This will not interfere with existing water use.

### 3. Operation of Heat Dissipation System

312. Blowdown from the cooling towers will be discharged through a multiport diffuser into the Cumberland River. During low river flows the blowdown will be discharged to a holding pond which will enable the plant to operate at full power without violating the applicable thermal water quality standards.[220]

313. Each cooling tower will release about 22,500 pounds of drift per hour, containing about 224 mg/1 of solids (about 484 pounds/day).[221] The vapor plume from the cooling towers will be a visual impact and may have a minor effect on local meteorology. The visibility of the plume offsite is dependent on ambient atmospheric conditions.[222] Some fogging may also occur along the river due to the temperature difference between the blowdown and the air; however, such fogging is expected to be infrequent and of negligible impact.[223]

314. The Board finds that no significant adverse impact will occur from operation of the heat dissipation system.

---

[218] FES §5-1, §5.1.2, §3.8; §4.1.2; ER §3.9.
[219] FES §5-2.
[220] ER §5.1.
[221] FES §5.3.2.1.
[222] ER §5.1.6.

### 4. Postulated Accidents

315. The probability and spectrum of accidents that could occur at the plant including associated fission product releases have been analyzed as to potential environmental effects by the Staff and Applicant.[224] This analysis used the standard accident assumptions and guidance issued as a proposed amendment to Appendix D to 10 CFR Part 50 by the Commission on December 1, 1971.[225]

316. The Board addressed the following question to the Staff and the Applicant:[226]

> "6. With respect to the consideration of the environmental impact of postulated accidents which specific parts of the Applicant's environmental monitoring program and/or additional monitoring (which presumably could be initiated subsequent to a liquid release accident) would detect the presence of radioactivity in the environment in a timely manner such that remedial action could be taken, if necessary, to limit exposure from other potential pathways to man? (FES: Table 7.2, Class 3.3, and Footnote a; and Appendix A-12 under Additional Comments)(Applicant and Staff)."

317. The Applicant testified that if higher than normal concentrations of radioactivity in liquid form are released to the environment, the monitor located in the release line will automatically close (Tr. 2832). A well located in the critical path is sampled weekly to detect liquid which has reached the groundwater as a result of the rupture of a tank (Tr. 2833).

318. The Staff prepared testimony (Tr. 2936) also stated that the radiation monitor will automatically terminate any release if the concentration of radioactive material in the effluent exceeds a predetermined level.[227] The 78,000 gallon, low-conductivity-waste tank has the potential for the highest release of radionuclides to an unrestricted water supply. Analysis of the release resulting from the rupture of this tank reveals that the concentration in unrestricted areas would be a small fraction of the limits of 10 CFR Part 20.[228]

319. The Board finds that the monitoring program would detect the presence of radioactivity in the environment in a timely manner so that appropriate remedial action can be taken, if necessary.

---

[223] FES §5.3.2.2.

[224] FES §7; ER §7.

[225] 36 Fed. Reg. 22851.

[226] Board Question 6 following Tr. 547.

[227] Staff Response to Board Question 6 at 2 following Tr. 2936.

[228] Staff Response to Board Question 6 at 2 following Tr. 2936; Affidavit of William M. Hewitt Concerning Postulated Liquid Tank Ruptures following Tr. 4404.

320. The Board also addressed the following question to the Applicant and the Staff:[229]

"7. With respect to ER Table 7.1.2 and FES Table 7.2 which waste gas storage tank release has been analyzed under accident Class 3.2? (Applicant and Staff)"

Applicant's witness stated that waste gas storage tank is a term that is more accurately applied to pressurized water reactors and that the release that had been analyzed by the Applicant was from the charcoal delay beds in the off-gas system (Tr. 2833 and 2858).

321. Two affidavits of a Staff witness stated that the accident analyzed for Class 3.2 was failure of a rupture disc in an off-gas delay line followed by a one-hour delay in isolating the steam jet-air ejector.[230] The Board addressed further questions with respect to Staff Exhibit 4A (Tr. 2954). The Staff responded that the reported times to isolate the steam jet-air ejector have varied from zero to more than 40 minutes, and some releases have been reported to occur over a period of 2 hours. Therefore, a period of one hour to isolate the steam jet-air ejector in the affected line is reasonable.[231]

322. The Staff further indicated that the assumption of a 30-minute delay line rather than a 10-minute delay line was somewhat conservative and demonstrated that the differences in calculated doses were extremely small for both the estimated fraction of the 10 CFR Part 20 limit at the site boundary and the estimated doses to population in a 50-mile radius.[232]

323. The Board finds that the Applicant and Staff have made appropriate analyses under accident Class 3.2 and that the results indicate that the environmental risks due to postulated radiological accidents at the plant are less than the 10 CFR Part 20 limits and are acceptable.

### 5. Radiological Releases

324. On April 30, 1975, the Nuclear Regulatory Commission adopted a new Appendix I to Part 50 establishing numerical guidelines for design objectives and limiting conditions for operation to meet the criterion "as low as practicable" for radioactive material in light water cooled nuclear power reactor effluents, and adopted a new Appendix I to 10 CFR Part 50 establishing certain numerical guides.[233]

---

[229] Board Question 7 following Tr. 547.

[230] Staff Ex. 4A.

[231] Staff Ex. 6.

[232] Staff Ex. 6.

[233] Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion "As Low As Practicable" for Radioactive Material in Light-Water Cooled Nuclear Power Reactor Effluents," CLI-75-5, NRCI-75/4, 277.

325. The Staff presented testimony by a panel of three witnesses showing the potential upper bound effect of Appendix I on the environmental assessment of radiological impacts and the NEPA cost-benefit analysis.[234] The Staff is presently reassessing its models used for estimating radiological releases and doses to reflect the Commission's direction that such models should reflect the best available evidence and should not substantially underestimate actual exposures. The reassessments will be completed in connection with the radiological health and safety hearing[235] and will include an evaluation of maximum individual radiological exposure, which will be controlled by the requirements of Appendix I.[236]

326. In the interim, the Staff has estimated the effect of using the newer data and the broader consideration of population dose required by Appendix I on the population dose estimates previously given in the FES. For this purpose, the Staff performed certain calculations which result in an upper bound assessment of the potential radiological impacts from normal operation of the plant.[237, 238] The upper bound dose estimates are based on revised estimated releases based on current operating data applicable to the radwaste systems proposed for the plant.[239] The release values used in the Staff's interim dose calculations are not anticipated to differ significantly from the values for the final assessment. In any event, the Staff's calculation of upper bound dose estimates includes sufficient conservatism to account for any variation that might occur in the Staff's final calculation of radiological releases.[240]

327. Because changes to the Applicant's radwaste system could adversely affect an assessment of potential changes in radiological environmental impact after compliance with Appendix I, the Applicant confirmed that it does not intend, in connection with its application for construction permits, to modify or remove any part of the radwaste treatment systems and equipment presently described in its Preliminary Safety Analysis Report.[241]

328. The Staff's interim assessment is based on the most current operating data available and includes broader consideration of the population dose (man-

---

[234] Testimony of Dr. F. S. Echols (adopting Affidavit of B. J. Youngblood) following Tr. 2879 (hereafter Echols); Testimony of William M. Hewitt, following Tr. 2880 (hereafter Hewitt); Testimony of Dr. Jacob Kastner, following Tr. 2883 (hereafter Kastner). In addition Mr. Hewitt and Dr. Kastner presented additional direct written testimony on the subject, in response to Board questions 4, 8, 9, and 10 which served to clarify aspects of the Staff's upper bound testimony (following Tr. 2885).

[235] Echols at 2.

[236] Echols at 3.

[237] Hewitt, Table 1.

[238] Kastner at 3 as corrected at Tr. 2899.

[239] Kastner at 3.

[240] Hewitt at 3.

[241] Echols at 4.

rem) impact by inclusion of the thyroid man-rem dose as required by Appendix I. In addition, Carbon-14 and particulates have been included in the Staff's interim assessment.[242]

329. The following are the revised estimates of radioactive effluent release rates for the plant:[243]

CALCULATIONS OF RADIOACTIVE MATERIALS IN TOTAL EFFLUENTS RELEASED FROM THE PLANT

| | Curies per year |
|---|---|
| Noble Gases | 16,000 |
| Tritium | 260 |
| Carbon-14 | 38 |
| Radioiodines and other nuclides | 10 |

The upper bound estimate of population dose to the general public due to effluents from the facility is 120 man-rem to the total body and 620 man-rem to the thyroid.[244]

330. As indicated in the Staff testimony, these upper bound estimates show the radiological impact is larger than that contained in the FES. The portion of the NEPA cost-benefit balance associated with radiological releases from the facility is controlled by the Commission's interim value of $1,000 per total body man-rem and/or thyroid man-rem annualized cost as established in the rule-making decision. Applying the Commission's value to the upper bound assessment of approximately 740 man-rem and thyroid man-rem, the overall cost is less than $740,000 per year.

331. The Board finds that this increase does not significantly affect the results of the overall cost-benefit analysis of the plant.[245]

332. With respect to maximum individual radiological exposure, on the basis of information presently available on the technology to reduce radioactive effluent releases, the plant can be designed to meet the requirements of Appendix I.[246] In the event the detailed assessment to determine compliance

[242] Echols at 4.

[243] Kastner at 3; Echols at 4 as corrected at Tr. 2899.

[244] Kastner at 4; Echols at 5.

[245] Echols at 6; Kastner at 4. It should be further noted that the Staff's estimate is based on the dose to the entire United States population, whereas Appendix I requires that the analysis take into account the population within 50 miles of the facility, which would reduce the $740,000 estimate (Tr. 2904-6).

[246] Hewitt at 2.

with Appendix I shows a need for any additional equipment, the cost of any additional equipment required would be insignificant in terms of the overall cost of the facility–less than about 4 million dollars or less than one percent of the levelized annual cost of the facility.[247] The addition of equipment to reduce the release of radioactive effluent would in turn reduce the upper bound radiological impact costs estimated above.[248]

333. The Board finds those potential costs are not large enough to cause the cost of the nuclear plant to exceed the cost of the alternate plants and therefore are not significant.

334. In this Partial Initial Decision, the Board does not have to address the question of whether the specific design complies with Appendix I. That determination will be made by this Board at the radiological health and safety hearing. At that time, matters put into controversy by intervenors involving aspects of the detailed assessment and compliance of the facility's specific proposed design with Appendix I will be litigated.

335. In summary, the Board finds that there is reasonable assurance that the plant can be designed to comply with Appendix I; the radiological impact of the plant will be small in the environmental balance; and any cost expended to install equipment to meet Appendix I will not affect the overall cost-benefit balance reached in this environmental decision phase of the proceeding.

### 6. Intake Structure

336. The Board addressed the following question to the Applicant and Staff:[249]

> "2. Will there be potential danger to small boats and/or swimmers in the vicinity of the intake pipes for the plant because intake screens are not proposed? (Applicant and Staff)."

337. The Applicant witness stated that there is no hazard to swimmers or boaters in the area of the intake but that, in any event, the Applicant will provide signs on the banks of the river to warn people of the intake in (Tr. 4406). He estimated that protective grids would cost $10,000. The Applicant witness also stated that protective grids on the intake structure would pose inspection problems and create a potential for clogging (Tr. 4422).

338. The Staff's witness testified that there would be a remote, but possible danger to persons near the intake structure,[250] and that the installation of

---

[247] Echols at 6.

[248] Echols at 6.

[249] Board Question 2 following Tr. 547.

[250] Staff Supplemental Testimony of Meyer Novick in Response to Board Question 2 at 1 following Tr. 4264.

protective grid structures over the intake entrances would cost $4,000. He indicated that within the past two months a diver's body had been found in the intake pipe at the Redondo Beach plant of the Southern California Edison Company (Tr. 4266). The witness also stated that a person could swim faster than the intake velocity of one and one-half feet per second but only momentarily, and the chances of being involuntarily entrained are great (Tr. 4276-6).

339. The Board finds that the installation of grid structures at the intake entrances is a reasonable means of mitigating the danger to persons who might be in the area of the intake entrances. This Board conditions any limited work authorization or construction permit to be issued upon the installation of appropriate grid structures at the intake structure or other means satisfactory to the Staff of physically preventing the involuntary entrainment of a person.

340. This condition placed on the intake structure is not inconsistent with paragraph 4.d of the new Policy Statement as it is not imposed in order to minimize the impact on water quality and biota that are subject to limitations or other requirements promulgated or imposed pursuant to the FWPCA. The Board imposes the condition under its NEPA authority because if finds the addition of grids on the intake structure to be necessary when taking into account the total environmental impact inclusive of the safety of the boating and swimming public on the Cumberland River. The enhancement of public safety is not subject to limitations or other requirements promulgated or imposed pursuant to the FWPCA.

### 7. Fish Kill

341. The Board asked the Applicant and the NRC Staff to address the following question:[251]

> 3. In the event that the baseline study program being conducted by the Applicant (FES: Section 11.4.1; and Appendix A-10) reveals that the make-up water intake will result in appreciable fish kills, will it be possible to effectively mitigate the adverse effects (e.g., through the addition of intake screens, fish return flumes, perforated pipe intake, higher concentration factors in the heat dissipation system, etc.) after initial construction is completed? How might such mitigating efforts affect the overall cost benefit analysis? (Applicant and Staff).

Applicant's witness stated that the Applicant's operational monitoring program will detect the number of fish being killed (Tr. 2549). He stated that in the event the loss was too high that it could be reduced by two means, both of which are

[251] Board Question 3 following Tr. 547.

inexpensive: a velocity cap over the end of the pipe or a series of troughs attached to the existing traveling screens (Tr. 2549). The cost of either system was stated by the witness to be between $100,000 to one or two million dollars (Tr. 2561). At one plant the second device reduced the loss of fish by 90 percent (Tr. 2554). The witness also stated that ongoing research in this field is striving to find even better systems (Tr. 2549).

342. A Staff witness confirmed that systems exists that could be used to reduce fish kills if it were found to be necessary (Tr. 2990). The best system presently available was troughs attached to the existing traveling screens (Tr. 2990-1). The Staff estimated that this system would not cost more than $250,000.

343. The Board finds that if modifications to reduce fish kills are needed, the technology exists and the cost would not be significant.

344. The Board also inquired as to the adequacy of the zone of passage for fish past the thermal discharge plume (Tr. 549). The Applicant's witness testified that the effluent from the plant would not result in thermal blockage to the passage of fish in the Cumberland River (Tr. 2570). The fish could pass on both sides and above the thermal discharge (Tr. 2571).

345. The testimony of the Staff witness was that the Applicant's diffuser system will minimize zone of passage restriction, but will not completely eliminate the problem at low river flow conditions.[252] The witness further testified that an adequate zone of passage during the low flow condition would be provided for in technical specifications at the operating license stage.

346. The Board finds that an adequate zone of passage for the migration of fish exists or that the plant can be operated so that an adequate zone can be maintained. The Board believes that any LWA or Construction Permit should require an adequate zone of passage be maintained but the issuance of the Second Memorandum of Understanding and Policy Statement Regarding Implementation of Certain NRC and EPA Responsibilities (see Section II D *supra*) and the anticipated early issuance of a NPDES Permit for the facility causes the Board to stop short of requiring such a condition. It believes that this would be a matter contrary to paragraphs 3 and 4.d of the Policy Statement. Further, the matter of incorporation of discharge permit requirements in NRC environmental technical specifications is addressed in paragraph 9 of the statement of consideration accompanying the Second Memorandum and Policy Statement. The Board finds that the case to case application of this matter called for can best be determined at the operating licensing stage, when such environmental technical specifications are issued.

---

[252] Staff Response to Board Question Concerning Zone of Passage by R. D. Olsen following Tr. 2592.

### 8. Employment

347. The plant will employ a permanent staff of about 350 with an annual payroll of about $4.5 million (1974 dollars).[253]

### 9. Compliance with Water Quality Criteria and Effluent Limitations

348. The Staff considered the effects of chemical discharges from the plant diffuser and is satisfied that the plant can be operated without any significant adverse impact[254] (Tr. 2445). See discussion of Contention 26(b) in Section III D.2. *supra.*

349. The evidence showed that although effluent limitations were proposed by the State for numerous constituents the only ones which may exceed the effluent standards are total suspended solids[255] (Tr. 2334) and possibly copper.[256] In discussing contentions 7 and 11, in Section II, D, *supra,* the Board found that the State's effluent standard for total suspended solids could be met if required. An Applicant witness testified that the State's effluent standard on copper could be met even under the extreme conditions of high copper concentrations and low flow in the river by reducing the maximum concentration factor of the cooling system from 3.5 to 2.7 (Tr. 2957-61). The Staff agreed with the Applicant that the effluent standard for copper could be met (Tr. 2986) and pointed out that the assumptions used in analyzing the copper effluent concentrations were very conservative (Tr. 2985).

350. The Board finds that the Applicant has demonstrated that the State's effluent limitations for the diffuser discharge can be met at the plant, if required.

### 10. Miscellaneous

351. The Staff considered the effects of operation of transmission lines and is satisfied that no unacceptable effects from generation of ozone,[257] audible noise[258] or interference with radio and television reception[259] exist. The Staff also investigated the possibility of hazards to birds in flight and could not

---

[253] FES 5-29.
[254] FES 5-24.
[255] State Ex. 1.
[256] FES 5-7.
[257] FES 5-27.
[258] FES 5-27.
[259] FES 5-28.

document any adverse effects.[260] The Staff also reviewed the Applicant's transmission line maintenance procedures[261] and found them adequate.

### 11. Board Findings on Impact of Operation

352. In addition to its findings discussed in the sections immediately above, the Board finds that the Applicant and Staff have adequately analyzed the impacts of operation of the proposed Plant.

## E. MONITORING PROGRAMS

353. The plant's terrestrial monitoring program was analyzed by the Staff (Tr. 2745). The supplemental testimony contains new Sections 6.1.4.1 and 6.1.5.1 because the Applicant revised its proposed monitoring program.[262] Baseline programs included surveys of mammals, birds, reptiles, and vegatation. During construction the Applicant will monitor waterfowl, soils, soil organisms, noise, transmission lines, effect and rare species identified during the baseline studies.

354. The Staff discussed the revised aquatic monitoring program (Tr. 4557). The program represents a departure from usual aquatic monitoring programs. The Staff witness testified that previous programs have tended to document changes in the aquatic system without providing for appropriate mitigation (Tr. 4558). The revised program provides for monitoring a few pertinent parameters (such as total suspended solids) near the construction site (Tr. 4559). Monitoring of the biota, typical of older aquatic monitoring programs, is excluded from the revised program. However, the monitoring proposed substantially reduces costs and is considered to be more effective (Tr. 4560-1).

355. The Board finds that the terrestrial and aquatic monitoring programs are adequate.

## F. COST-BENEFIT BALANCE

356. The Board in carrying out its NEPA responsibilities finds that additional generating capacity in the Applicant's service area is needed in the early part of the next decade. Although the Board continuously employed cost-benefit balancing throughout its decisional process, in affirming the need for power, the Board has determined that the primary benefit of the plant is the production of electrical energy to satisfy the needs of the Applicant's residential, commercial, federal, and industrial customers.

---

[260] FES 5-29.

[261] FES 529.

[262] ER §6.1.1.2, §6.2.5 (Amendment 3).

357. In considering various alternatives to produce the needed power, the Board weighed the relative costs and benefits of each alternative in the interest of identifying the optimum alternative which would minimize both adverse environmental costs and dollar costs and have acceptable environmental risk. The Board considered alternative methods of producing the electrical energy (*i.e.*, nuclear, coal, magneto-hydrodynamic, solar and wind plants, and plants using coal gasification, liquefaction and fluidized-bed combustion), considered alternative sites and alternative systems and designs. Furthermore, the Board considered a 10% increase in the construction cost to cover the cost of hardening or moving the gas pipeline if either or both were necessary. The Board concludes that the nuclear plant alternative is the optimum alternative and it is fully justified as the minimum dollar and environmental cost alternative even if the plant must be hardened and the pipeline moved.

358. In constructing the nuclear plant alternative, there will be an inevitable commitment of resources and certain environmental, economic and other costs. Throughout this decision the Board has quantified in detail these commitments and costs. The Board finds that the major commitments and costs include:

(a) The utilization of land during construction and operation of the plant including transmission corridors.

(b) The displacement of residents from the plant site.

(c) The diversion of a part of the water flow of the Cumberland River with some consumptive use of the water primarily in the plant cooling towers.

(d) The return of concentrated suspended solids to the Cumberland River resulting from the evaporative consumption of water.

(e) The destruction of aquatic organisms in the plant's cooling systems.

(f) An increase in environmental radiation levels resulting from radiological releases during operation and from possible accidental releases.

(g) A strain on local roads, schools, housing and community services during the construction period.

(h) An aesthetic impact on the immediate environs of the plant.

(i) The destruction of the McGee House.

(j) The consumptive use of the uranium fuel.

(k) The cost of constructing the plant, the cost of its operation and maintenance throughout its lifetime and the cost of its eventual decommissioning.

(l) If, as a result of the health and safety hearings, the plant must be hardened or the gas pipeline must be moved, an additional dollar cost, not exceeding 10% of the construction cost, would be incurred.

## VI. CONCLUSIONS OF LAW

359. The Board concludes that based on its review of the entire record of this proceeding and on the foregoing Findings of Fact, the application and the

proceeding to date comply with the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations. The Board in issuing this Partial Initial Decision, has limited itself to those issues covered by the Limited Work Authorization regulation.[263] The record will be reopened later for the submission of additional evidence on radiological health and safety matters after which the Board will render its Initial Decision on the ultimate issues designated in the Commission's Notice of Hearing herein.

360. The Board holds that its jurisdiction includes but is not limited to the need-for-power issue, construction and operation of transmission lines and the mitigation of socioeconomic impacts; that its jurisdiction under the Atomic Energy Act and the Commission's rules and regulations was broadened by NEPA; that it has jurisdiction to impose conditions to mitigate adverse environmental and socioeconomic impacts, both on and offsite; that Section 273 in conjunction with Section 103 of the Atomic Energy Act requires that the same rules be applied to a federal-agency applicant as to a private-utility applicant.

362. The Board holds that the requirements of Section 102(2)(A), (C), and (E) of NEPA and Part 51 of the regulations have been met.

363. The Board holds that the customers of the Applicant will have a genuine need for power of the amount proposed in the 1980's; that the optimum alternative to produce that electrical energy is the proposed plant; that impacts on historical resources have been or will be satisfactorily mitigated; that the discharge from the plant will not have a significant adverse effect on the environment; that any Limited Work Authorization or construction permit(s) are to be conditioned to include all the mitigating action planned by the Applicant and recommended by the Staff, except as modified herein; that the cost of mitigation of socioeconomic impacts is not significant with respect to total cost-benefit balance; that the environmental impact of the transmission lines will be adequately mitigated by adoption of the Staff conditions in the FES as modified herein.

364. The Board independently evaluated the overall cost benefit balancing and finds that the primary benefit of the plant outweighs the environmental, economic and other costs of the plant.

## VII. ORDER

365. Following upon the Board's Findings and Conclusions, IT IS ORDERED THAT this Partial Initial Decision shall constitute a portion of the Initial Decision to be issued upon completion of the radiological health and safety phase of this proceeding.

366. IT IS FURTHER ORDERED THAT in accordance with Sections 2.760, 2.762, and 2.764(a) of the Commission's Rules of Practice in 10 CFR

[263] 10 CFR §50.10(c).

Part 2, this Partial Initial Decision shall be effective immediately and shall constitute the final action of the Commission thirty (30) days after the date of issuance hereof, subject to any review pursuant to the Rules of Practice. Exceptions to this Partial Initial Decision may be filed by any party within seven (7) days after service of this Partial Initial Decision. A brief in support of the exceptions shall be filed within fifteen (15) days thereafter, twenty (20) days in the case of the Regulatory Staff. Within fifteen (15) days after service of the brief of appellant (twenty (20) days in the case of the Regulatory Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

J. Venn Leeds, Jr., Member

Forrest J. Remick, Member

John F. Wolf, Chairman

Issued at Bethesda, Maryland
this 20th day of April 1976.

[The Appendix (List of Exhibits) is omitted from this publication but is available at the NRC's Public Document Room, Washington, D.C.]

UNITED STATES
NUCLEAR REGULATORY COMMISSION

CLI-76-6

COMMISSIONERS:
Marcus A. Rowden, Chairman
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of

EDLOW INTERNATIONAL COMPANY

(Agent for the Government of India on Application to Export Special Nuclear Material)

License No. XSNM-805
Docket No. 70-2071
License No. XSNM-845
Docket No. 70-2131

May 7, 1976

Upon joint petitions for leave to intervene and for a hearing on two pending licensing applications concerning the export of special nuclear material to India, the Commission rules that (1) petitioners have no standing to intervene as a matter of right; (2) the petition of two of the petitioners was not filed in a timely fashion; (3) a public (legislative type) hearing will be held as a matter of Commission discretion; and (4) petitioners' request for funding should not be acted upon prior to the completion of the Commission's ongoing rulemaking proceeding on such questions.

Petitions for leave to intervene denied. Public hearing ordered. Request for funding denied without prejudice.

RULES OF PRACTICE: STANDING TO INTERVENE

Although the requirements of standing to intervene in the federal courts need not be the model for those applicable to administrative proceedings, as a general proposition the Commission relies principally on judicial precedents in deciding such issues.

RULES OF PRACTICE: STANDING TO INTERVENE

Not every risk with which the Commission is substantially concerned is, perforce, one which must be deemed to create standing in some member of the public.

RULES OF PRACTICE: STANDING TO INTERVENE

Under Section 189(a) of the Atomic Energy Act, a petitioner must establish its standing to intervene in terms of the effect upon it of the final result of the proceeding in which it wishes to intervene—the grant or denial of a license.

RULES OF PRACTICE: STANDING TO INTERVENE

The need of an organization, in terms of its internal purposes, to acquire information involved in a proceeding does not constitute the type of interest sufficient to satisfy applicable standing requirements. *United States* v. *Richardson*, 418 U.S. 116 (1974). Congress has instead provided expanded public access to information through the Freedom of Information Act.

RULES OF PRACTICE: STANDING TO INTERVENE

An organization has standing to represent the interests of its members if those members are legally entitled to invoke the jurisdiction of a Court or administrative agency. *Warth* v. *Seldin*, 422 U.S. 490 (1975).

NUCLEAR REGULATORY COMMISSION: JURISDICTION

A licensing proceeding concerning the shipment abroad of nuclear fuel, before a federal administrative agency in the United States, is not the proper forum for raising issues involving the safe operation in a foreign country of a nuclear power plant operated by a sovereign foreign government. The foreign government has the primary, if not exclusive, authority to regulate such facility.

NEPA: RELATIONSHIP TO ADMINISTRATIVE PROCEEDINGS

No portion of NEPA bears upon the right of a party to intervene in administrative proceedings before federal agencies or to demand a hearing on any subject.

RULES OF PRACTICE: STANDING TO INTERVENE

It a petitioner alleges a concrete and direct injury, its claim of standing is not impaired merely because similar harm is suffered by many others. However, if its asserted harm is a generalized grievance shared in substantially equal measure by all or a large class of citizens, that harm alone will not support standing. *Warth* v. *Seldin*, 422 U.S. 490 (1975); *Schlesinger* v. *Reservists to Stop the War*, 418 U.S. 208 (1974); *United States* v. *Richardson*, 418 U.S. 166 (1974); *Ex parte Levitt*, 302 U.S. 633 (1937).

NUCLEAR REGULATORY COMMISSION: JURISDICTION

Consideration of health and safety effects in foreign countries resulting from export licensing is outside the jurisdiction of the Commission.

EXPORT LICENSE PROCEEDING: TIMELINESS OF PETITION TO INTERVENE

Pending the development of specific rules, a petition for leave to intervene

in an export license proceeding is timely if it is filed within thirty days of the posting of the export license application in the Commission's Public Document Room or within such shorter period as the Commission may provide.

NEPA: "FEDERAL ACTION"

The granting or denial of a particular export license for a certain type and quantity of special nuclear materials does not constitute a "major federal action" for purposes of NEPA.

ATOMIC ENERGY ACT: HEARINGS

Even in The absence of a proper request for a hearing under Section 189(a) of the Atomic Energy Act, the Commission may in its discretion direct such a hearing if it determines that such a hearing would be in the public interest. 10 C.F.R. §2.105(a).

## OPINION

On March 2, 1976, joint petitions were filed with the Nuclear Regulatory Commission on behalf of three organizations (Natural Resources Defense Council, Inc.; The Sierra Club; and the Union of Concerned Scientists) for leave to intervene and for a hearing on two pending licensing applications concerning the export of special nuclear material to India.

**Background**

As agent for the Government of India, the Edlow International Company has applied for the following export licenses, both of which involve fuel for the Tarapur Atomic Power Station:

- XSNM-805 (for 82.8 kilograms of U235 contained in 3055.20 kilograms of Uranium enriched to a maximum of 2.71 percent)
- XSNM-845 (for 463.64 kilograms of U235 contained in 18371.4 kilograms of Uranium enriched to a maximum of 2.71 percent)

The Tarapur Atomic Power Station (hereinafter TAPS) was the first nuclear power facility constructed in India. The station, which is located on the country's west coast about 100 kilometers (60 miles) north of Bombay, consists of two units, each with a dual cycle boiling water reactor and associated turbo-generator of 210 megawatt capacity. The station is owned by the Government of India and managed by the Atomic Power Authority. TAPS was built by the International General Electric Company pursuant to an Agreement for Cooperation for Civil Uses of Atomic Energy Between the United States and India which was signed at Washington, D.C., on August 8, 1963, T.I.A.S. 5446. Pursuant to

Article II(A) of the Agreement for Cooperation, the United States has agreed to supply the fuel requirements of the Tarapur reactors, and the Indian Government has agreed that the reactors "shall be operated on no other special nuclear material than that made available by the United States . . . ." The Project was financed by a loan from the United States Agency for International Development. TAPS has furnished electric power to the two western Indian states of Maharashtra and Gujarat since February, 1969, when the reactors attained criticality. Since its construction, the supply of enriched uranium to fuel TAPS has required the issuance of twenty-four export licenses.

Pursuant to the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974, the Nuclear Regulatory Commission is responsible for licensing exports of special nuclear material; the Department of State and the Energy Research and Development Administration are responsible for negotiating and implementing Agreements for Cooperation in the civil uses of nuclear energy; and the Energy Research and Development Administration has responsibility for contract supply of enriched uranium.

During the first year of its existence as an independent regulatory agency,[1] the NRC, in conjunction with the Executive Branch, developed certain procedures for obtaining the views of relevant Executive Branch agencies on pending export license applications. The procedures to be followed by the Executive Branch in this connection were formalized on February 2, 1976, by the issuance of Executive Order 11902, after having been in practical operation for several months. The Commission has under active study a corresponding revision and formalization of its own procedures.

The application in XSNM-805 was filed with the Commission on July 29, 1975. It was referred to the Department of State on August 18, 1975, to obtain the views of the Executive Branch with regard to the issuance of the proposed license. The State Department replied by memorandum dated December 6, 1975, stating that in the view of the Executive Branch, the issuance of the license would not be inimical to the common defense and security. On December 10, 1975, the NRC Staff filed its conclusion that the export to be made pursuant to the proposed license would be subject to the Agreement for Cooperation between the United States and India, and that it would not be inimical to the common defense and security of the United States. On December 17, 1975, the license application and supporting documents were forwarded to the Commission by the Director of NRC's Office of Nuclear Material Safety and Safeguards for approval.

The application in XSNM-845 was mistakenly filed with the U.S. Energy Research and Development Administration on October 21, 1975. It was received

[1] The Commission was created by the Energy Reorganization Act of 1974, Pub. Law 93-438, 88 Stat. 1233.

by the NRC on November 5, 1975, and forwarded to the State Department on November 21, 1975. The Executive Branch's view that the export would not be inimical to the common defense and security was submitted on March 9, 1976. As of the present date, the NRC Staff has not forwarded its views on the license to the Commission.

As part of the continuing fuel supply arrangements under the United States/Indian Agreement for Cooperation of August 8, 1963 (T.I.A.S. 5446), the Commission has received several presentations concerning the Tarapur Atomic Power Station. As it does for all nations to which special nuclear materials may be exported, the Commission has received a regular flow of State Department cable traffic bearing on the supply of U.S. nuclear material to India. Further, the NRC has had frequent contacts with cognizant Executive Branch agencies on the Indian situation, and the Commissioners have engaged in numerous discussions among themselves and with the Staff on these matters. In conjunction with the licensing of fuel for use at TAPS, four classified briefings have been received on the Commission level between September, 1975, and February, 1976, from the State Department and other agencies, including the Central Intelligence Agency and the Energy Research and Development Administration. Written questions supplementing those routinely posed by the Commission in conjunction with fuel export license applications pursuant to Executive Order 11902 have also been submitted to the State Department. Written submissions from Executive Branch agencies have been received and, unless classified, are part of the public docket in this matter. Thus, the written submissions and oral presentations in connection with the present proceeding supplement an already extensive consideration of the issues involved in licensing exports for use at Tarapur.

On March 5, 1976, the Commission sent a letter to the petitioners, the applicant, the Department of State, and the NRC Staff requesting that written discussions of the issues raised by the petitions, including the threshold issues of standing and timeliness, be submitted to the Commission by March 12, 1976. That same letter set a hearing before the Commission on preliminary issues for March 17, 1976.[2] Written submissions on the issues were received from petitioners, the NRC Staff and the Department of State. Accompanying the submission of the Department of State was a motion requesting separate consideration of the two licenses on the ground that delay in shipping material covered by license application XSNM-805 would have serious and irreparable consequences for India and because the petition on that application was untimely. This motion, and the responses thereto, by the petitioners and the NRC Staff, were considered by the Commission at the March 17 hearing. (The appli-

[2] On March 8, 1976, NRC Chairman William A. Anders submitted a letter to the Commission's Secretary indicating his intention to play no part in the consideration of the two Tarapur licenses.

cant—Edlow International Company as Agent for the Government of India—elected neither to make a submission nor to participate in the hearing.)

At the March 17 hearing the Commission entertained oral argument by the three participants. We also heard the views of Congressman Clarence Long of Maryland supporting petitioners' request for intervention and hearings. *Transcript of Hearing Before the Nuclear Regulatory Commission*, March 19, 1976 (hereinafter *Transcript*), pp. 55-59.[3] At the conclusion of the hearing, the Commission asked the participants for additional submissions on procedures to be followed at any further hearing, whether mandatory or discretionary in character.

On March 25, 1976, following further submissions concerning the State Department's motion for separate consideration, the Commission issued an Order denying the motion of the Department of State for separate treatment of the two applications; it based that denial on its inability to find, from its analysis of information contained in affidavits submitted by the participants, that there was at that time an adequate basis for the urgency claim as to license application XSNM-805.

**Summary of Commission Determinations**

After careful consideration of the written and oral presentations of the participants, we have concluded that petitioners have no standing to intervene in the present licensing proceedings as a matter of right. Further, we find that the petition in license XSNM-805 was not filed in a timely fashion as regards petitioners Sierra Club and NRDC.[4] We have also concluded that even though petitioners have not established a right to a hearing, a public hearing will be held as a matter of discretion. Procedures are specified hereinafter which will afford petitioners and others an opportunity to make their views known in a manner and under a procedural format which is compatible with the orderly conduct of the licensing process and with the conduct of United States foreign policy.

## I. STANDING TO INTERVENE AS A MATTER OF RIGHT

The Sierra Club is a non-profit conservation organization, incorporated in the State of California, with a membership of approximately 156,000 persons in the United States and 100 foreign countries. The Club's corporate purposes are "[t]o protect and conserve the natural resources of the Sierra Nevada, the United States and the World; to undertake and publish scientific and educational

[3] A letter to the same effect was submitted by Congressman Richard Ottinger, and fifty-five other Members of the House of Representatives on March 9, and has been made a part of the record.

[4] Inasmuch as we find that all petitioners lack standing, we do not reach the question of whether the notice which Sierra Club and NRDC received should also be imputed to UCS.

studies concerning all aspects of man's environment and the natural eco-systems of the World; and to educate the people of the United States and the World to the need to preserve and restore the quality of that environment and the integrity of those eco-systems." *See, Affidavit of Charles Clusen* dated March 1, 1976. The Natural Resources Defense Council, Inc. (NRDC), is a non-profit, public benefit organization incorporated in the State of New York, with a membership of over 22,000 persons in the United States and foreign countries. NRDC's objectives are to "maintain and enhance environmental quality"; to "monitor federal agencies to ensure that environmental values are fully considered in decision-making"; and to advance its environmental goals by participating in agency proceedings and by undertaking lawsuits. *See, Affidavit of J. Gustave Speth* dated March 1, 1976. The Union of Concerned Scientists (UCS) is a non-profit corporation incorporated in the District of Columbia by "a coalition of scientists, engineers and other professionals concerned about the impact of advanced technology on society." It is not a membership organization. Its purpose is "to coordinate scientific analysis and research of public policy and technological issues." *See, Affidavit of Daniel F. Ford* dated February 27, 1976, and comments of Attorney Eldon V. C. Greenberg at Preliminary Hearing conducted March 17, 1976, *Transcript*, p. 97.

The petitions to intervene filed on behalf of these organizations, if granted, would require the holding of an adjudicatory, or trial-type, hearing subject to appropriate modifications made in accordance with the Administrative Procedure Act's "foreign policy" exception. 5 U.S.C. §554(a)(4). Grant of the petitions as a matter of right turns on petitioners' standing to participate and the standing question, in turn, is framed by Section 189(a) of the Atomic Energy Act of 1954, 42 U.S.C. §2239(a), which provides in pertinent part that: "[i]n any proceeding under this Act, for the granting . . . of any license . . . the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding." The Tarapur application is one "for the granting . . . of any license." Thus, petitioners to establish a right to the hearing they request must show they possess standing–that is, an "interest" which may be "affected" by the proceeding.

Before turning to the precise interests which petitioners assert, we consider a series of related general propositions regarding standing, to set the context for our decision. These are, first, the applicability in this administrative context of judicial precedents on standing; second, the suitability for export license proceedings of an expansive view of standing claims; and third, the requirements in this context of the somewhat imprecise words of our organic statute.

First, as a general proposition, the Commission relies principally on judicial precedents in deciding issues of standing to intervene. We recognize that standing requirements in the federal courts need not be the model for those applicable to administrative proceedings. For example, the constitutional requirement for a

"case or controversy" under Article III does not apply to NRC licensing proceedings. Nevertheless, administrative agencies have generally accepted the standards announced by the federal courts as useful guides in determining the kinds of interests a petitioner must establish to sustain a claim for participation in a proceeding as a matter of right. This Commission and its predecessor, the Atomic Energy Commission, are no exception to this practice. *See, e.g., Northern States Power Company*, (Prairie Island Nuclear Generating Plant Units 1 and 2) ALAB-107, 6 AEC 188 (1973); *Long Island Lighting Company*, (Jamesport Nuclear Power Station, Units 1 and 2) ALAB-292, NRCI-75/10 631 (October 2, 1975). Indeed, each of the three participants in these proceedings makes detailed reference to judicial decisions on the question of standing. We have found particularly useful the United States Supreme Court's discussion of prudential concepts of standing and their relationship to constitutional standards. *See, e.g., Warth* v. *Seldin*, 422 U.S. 490, 500 (1975); *United States* v. *Richardson*, 418 U.S. 166, 179-80, 188-193 (1974)(Powell, J., concurring). Adjudication in the administrative context has liabilities as well as advantages, especially for setting policy. The functional need for well-defined and specific interests, which will lend concrete adversity to the decision-making process, applies as directly to our licensing review as it would to a federal lawsuit.

Second, we have concluded as a matter of policy that an expansive rule of standing would be undesirable in the export licensing context, which involves sensitive questions of the nation's conduct of foreign policy. These matters have traditionally been viewed as appropriately resolved in settings other than a public, adversary adjudication. *See, Pauling* v. *McNamara*, 331 F.2d 796 (D.C. Cir. 1964). The accommodation of deeply felt national interests requires a process of international negotiation, clarification and adjustment which does not fit an adjudicatory format or timetable. Given such considerations, "oversight" of the Commission's policies and practices is most appropriately performed by the Congress, through the Joint Committee on Atomic Energy and other concerned committees. It might be noted in this connection that, during the past year the Commission has testified and provided briefings concerning its nuclear export activities on numerous occasions before several Congressional committees.[5]

Petitioners' reliance on such cases as *Office of Communications of the United Church of Christ* v. *FCC*, 359 F.2d 994 (D.C. Cir. 1966) for the proposi-

[5] Formal testimony was given at hearings on the Export Reorganization Act of 1975 (S. 1439) before the Senate Committee on Government Operations, 94th Cong., 1st Sess. (April 30, 1975); at hearings on H.Con.Res. 371 before the Subcommittee on International Security and Scientific Affairs of the House Committee on International Relations, 94th Cong., 1st Sess. (October 30, 1975); at hearings on the Export Reorganization Act of 1976 (S. 1439) before the Senate Committee on Government Operations, 94th Cong., 2nd Sess. (January 29-30, 1976).

tion that "it may be in the public interest for the Commission to permit intervention, even when judicial doctrines of standing would not authorize it" is misplaced. *See, Petitioners' Supplemental Memorandum on Timeliness and Standing Issues* (March 19, 1976), p. 15. In the *United Church of Christ* case, the Court of Appeals allowed a petition by members of the listening public to intervene in proceedings for renewal of a broadcast license. The proceeding there saw the FCC in its central licensing function, comparable to a construction permit proceeding before this agency, and a function in which adjudication was the expected and appropriate mode of decision. The petitioners there, representatives and residents of local viewers, had a direct and personal stake in the outcome which sharply differentiated them from the nation's citizenry as a whole. Here, adjudication is not a normal mode, in part because of the foreign relations considerations. Also, as set forth below, the petitioners here do not represent a discrete group alleging a specific identifiable injury. The interests they claim to represent are those of the nation as a whole, which we, no less than the Congress and the Executive Branch, are sworn by oath to uphold. In these circumstances, the need for separate representation and for adjudication rather than political oversight is not established. *Schlesinger* v. *Reservists To Stop The War,* 418 U.S. 208, 217-219 (1974).

The same reasoning leads us to conclude that Congress has not granted an express right of action to citizens who can claim an undifferentiated risk to themselves in the context of export license proceedings. While for domestic licensing our licensing boards have recognized claims of risk which may be considered somewhat remote as a basis for intervention, we believe it inappropriate and unnecessary to give the notion of "interest" which "may be affected" under Section 189(a), a broadly permissive reading here. Not every risk with which the Commission is substantially concerned is, perforce, one which must be deemed to create standing in some member of the public. When Section 189(a) was written, in 1954, established tests of citizen standing, in both administrative and judicial proceedings, were constrained to their traditional, rather narrow, dimensions. *See*, Davis, *Administrative Law Treatise,* Vol. 3, Chapter 22–Standing (1958), esp. §22.08. In the domestic reactor licensing proceedings, the Atomic Energy Act, as amended, and its legislative history contemplate hearings as an important aspect of the licensing process, and our boards' practice reflects this fact. There is nothing in the legislative history of the Atomic Energy Act, as amended, or in its implementation, which suggests that, in the export licensing context, any but the usual rules of standing, as they have evolved since 1954, are to be applied.

The continuing validity of this view is supported by the practices of the Atomic Energy Commission in administering the export license program, and by the fact that Congress did not address itself to these issues when the Nuclear Regulatory Commission was established. During the whole of the Atomic Energy Commission's existence, no request for intervention or hearing on a nuclear

export was ever received. It might also be noted that the legislative history of the Energy Reorganization Act of 1974, Pub. Law 93-438, 88 Stat. 1233, which established this Commission, does not mention the issue.

We now turn to the specific interests alleged by the petitioners to meet the requirements of Section 189(a) of the Atomic Energy Act. They fall within two basic categories. The first, or "institutional" interests involve the asserted injury which could result to informational and educational activities cited by the three incorporated organizations in the areas of environmental protection, energy policy, and nuclear proliferation. The second class of interests arises from representation by two of these organizations of the individual interests of their members.

## A. INSTITUTIONAL INTERESTS

The corporate interests asserted by the petitioners include "disseminating information" and "promoting" wise use of technology and resources and the development of sound energy policy. Petitioners allege that a "failure of the Commission to carry out relevant analyses of the risks posed by the pending proceedings impairs petitioners' ability to fulfill their information and educational functions . . . ." In support of this claim, the organizations also point to their sponsorship of conferences and meetings on energy policy; their publication of reports and studies on nuclear proliferation; and the fact that they have commented extensively on U.S. nuclear power export activities. We are hard pressed to see how petitioners' desire to have the Commission carry out relevant analyses (a concern directed not to the granting or denial of a particular license, but to the process of Commission action) is an "interest [which] may be affected by the proceeding." In our view, the term "proceeding" can only be interpreted to mean the outcome on the merits of the license. This is clear from the initial language of Section 189(a) which speaks of proceedings "for the granting (etc.) of any license . . . ."

In *Sierra Club* v. *Morton*, 405 U.S. 727, 739 (1972), the United States Supreme Court was faced with asserted institutional interests of a nature quite similar—if not identical—to those presented here. In the following frequently quoted language, the Supreme Court found that there was no standing because

> [A] mere "interest" in a problem, no matter how longstanding the interest and no matter how qualified the organization is in evaluating the problem, is not sufficient by itself to render the organization "adversely affected" or "aggrieved" within the meaning of the APA.

Petitioners attempt to distinguish *Morton* and to demonstrate why the facts of the present proceeding demonstrate more than the "mere interest" which was found insufficient by the Supreme Court. Citing language from a footnote in

*Scientists' Institute for Public Information, Inc.* ["SIPI"] v. *Atomic Energy Commission,* 156 U.S. App. D.C. 395, 481 F.2d 1079 (1973), petitioners assert that their "ability to maintain their existence may depend significantly upon their access to information." We believe the circumstances of *SIPI* are clearly distinguishable from the instant proceeding. Plaintiffs in *SIPI* claimed judicial standing to seek enforcement of the National Environmental Policy Act, to compel the AEC to prepare an environmental impact statement on its fast breeder reactor program; they did not seek intervention or participation before the agency in the process of preparing that statement. In the matter now before us, the question of intervention is one of permitting organizations to invoke the formal administrative process of adjudication for considering a nuclear export license application. The Court of Appeals discussion in *SIPI* does not support a claim for intervention in agency proceedings as a matter of right. Congress has provided expanded public access to information through the Freedom of Information Act, not through the adjudicatory hearing provisions of the Administrative Procedure Act.

If any doubt about the proper interpretation of the *Morton* opinion arose from the Court of Appeals decision in *SIPI,* that doubt was removed in the later decision in *United States* v. *Richardson,* 418 U.S. 166 (1974), where the Supreme Court denied standing to an individual to sue for an accounting of expenditures by the Central Intelligence Agency. In that case, the plaintiff's asserted claim for information, which the Court rejected, was even stronger than that in the present proceeding. It was bulwarked by constitutional arguments that failure to provide information on CIA activities was in violation of Article I, Section 9, Clause 7, requiring public accounting of federal receipts and expenditures and that, without detailed information, the plaintiff could not properly exercise his right to vote. In rejecting plaintiff's standing argument, the Court quoted the *Morton* language with approval.

In the case before us, we note that petitioners already have available many other means for obtaining information, where the party in *Richardson* had none. Petitioners have access to information through examination of files in the Commission's Public Document Room; requests for information from the Commission or Executive Branch agencies, including formal requests under the Freedom of Information Act; review of the Final Environmental Impact Statement on United States Nuclear Power Export Activities (ERDA-1542) recently prepared by the Energy Research and Development Administration; and examination of extensive testimony on nuclear exports by witnesses from the NRC and Executive agencies in hearings during the past year before the Senate Government Operations Committee and other Congressional committees.

As we view it, petitioners must establish their standing in terms of the final result of the proceeding in which they wish to intervene–grant or denial of an export license. No causal nexus exists between failure to grant petitioners' request to participate in a trial-type hearing as opponents to issuance of the

Tarapur licenses and any possible impairment of these organizations' ability to conduct an active and useful educational program for their members or the public. Indeed, accepting petitioners' claim would suggest a variety of other bases on which mandatory participation could be claimed–for example, vindicating a corporate interest in promoting effective procedures–because of some incidental benefit conferred by the fact of a hearing. Participation in a hearing is not an end in itself, but must be related to an issue–in this case, grant or denial of a license. Certainly, decision on the Tarapur licenses (which is the issue) poses no threat to the information function exercised by the petitioners. Therefore, the institutional interests asserted by petitioners do not establish a claim of right under Section 189(a) of the Atomic Energy Act.[6]

## B. INTERESTS OF MEMBERS

The foregoing discussion disposes of the only interest asserted by one of the three petitioners–the Union of Concerned Scientists. The two other organizations involved in these proceedings (Sierra Club and National Resources Defense Council, Inc.) have submitted affidavits asserting interests in a healthy and safe environment possessed by their individual members as an additional basis for standing. Although it has been argued that such "representative standing" should be denied to the corporate petitioners under the precedent of *Natural Resources Defense Council, Inc.* v. *U.S. Environmental Protection Agency*, 507 F.2d 905 (9th Cir. 1974), we do not rely on that line of reasoning. Several Supreme Court decisions have supported the right of an organization to represent the interests of its members, if those members are legally entitled to invoke the jurisdiction of a court or administrative agency. *See, e.g., Warth* v. *Seldin*, 422 U.S. 490 (1975). We accept the claim of these petitioners to represent their membership.

Rather, we find that the petitioners' standing assertions fail on other grounds. The petitioners allege two types of harm to their membership. The first is that ". . . members who travel to or reside in India may be exposed to the risks associated with the operation of Tarapur." The second is the risk that members in the United States will be endangered by the increased risk of nuclear weapons proliferation; by possible theft of nuclear materials or sabotage of the facility; and by unsafe operation of the Tarapur Atomic Power Station.

### (1) Foreign Risks

Initially, it should be emphasized that standing cannot be claimed on issues which the Nuclear Regulatory Commission has no legal competence to decide. In

[6] The assertion of two petitioners that their ability to retain their membership will be threatened if they cannot participate in this proceeding seems to us highly conjectural. It is the kind of "ingenious academic exercise in the conceivable" which the Supreme Court rejected as a basis for standing in *United States* v. *Students Challenging Regulatory Agency Procedures* ["SCRAP"], 412 U.S. 669, 688 (1973).

this regard, we specifically have in mind matters involving health and safety aspects of the Tarapur Atomic Power Station, as they may affect persons who reside in or travel to India. We shall reserve to a later portion of this opinion a discussion of why the Commission and its predecessor, the AEC, have consistently taken the view that foreign health and safety matters are beyond our jurisdictional authority, as set forth in the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974.

Even were this conclusion erroneous, however, we strongly believe that a licensing proceeding for two shipments of nuclear fuel, before a federal administrative agency in the United States, is not the proper forum for raising issues concerning the safe operation of a nuclear power plant operated by a sovereign foreign government, outside the territorial jurisdiction of this country, and distant from our borders. Even if the NRC were to possess such unusual extraterritorial legal authority, elementary principles of comity among nations suggest that we stay our hand until these matters have been raised with the Government of India, which obviously has the primary, if not exclusive, authority to regulate this facility. *See,* Article II(G) of the *Agreement for Cooperation Between the United States and India,* T.I.A.S. 5446 (August 8, 1963). We believe that any recognition of standing to contest the impact of a nuclear export license on health and safety conditions within a sovereign, foreign state must give due account to the existence of alternate means of vindicating the interests asserted. If petitioners are concerned about hazards posed in India by operation of the Tarapur Atomic Power Station, we believe the proper place for expressing those concerns would be the Indian Atomic Power Authority, the Atomic Energy Department of the Government of India, and the Indian courts. In the oral proceedings on March 17, 1976, petitioners' counsel conceded that "... there may be opportunities within India to raise some of these issues," but that none of these remedies had been pursued. *Transcript,* p. 18.

Although not necessarily determinative of our view of standing, we also cannot avoid reflecting on the rather small number of persons involved in petitioners' claim for representative standing. The fact that one member of the Sierra Club and less than half a dozen members of NRDC reside in India (a nation of over a million square miles in area and some 600 million in population) certainly raises the question of whether the interests asserted here may be *de minimis.* The rather sporadic and indefinite nature of tours sponsored by these organizations to India does not add substantially to the claim of risk from improper operation or sabotage of the Tarapur facility.

Other asserted risks which might bear upon petitioners' standing claim arise from the alleged failure of the Commission to fulfill duties arising from the National Environmental Policy Act of 1969. *See, Petitions,* p. 7. We are urged to find that NEPA has a clear "international reach," which makes it applicable to the situation at the Tarapur Atomic Power Station. Although we shall address the legal arguments bearing upon NEPA's foreign application in a later portion

of this opinion, we must note that no portion of that enactment bears upon the right of a party to intervene in administrative proceedings before federal agencies or to demand a hearing on any subject. *See, Jicarilla Apache Tribe of Indians* v. *Morton,* 471 F.2d 1275, 1284 (9th Cir. 1973). Cases cited by petitioners in their *Supplemental Memorandum on Timeliness and Standing Issues* as bearing upon this issue do not concern standing to intervene in agency hearings themselves, but only deal with standing to seek federal judicial review of agency action or inaction. They focus upon whether agencies should be required to prepare environmental impact statements at all, and if so, what the form and content of those statements must be. They do not concern the extent to which intervenors must be permitted to participate in agency decision-making processes. *See, e.g., Scientists' Institute for Public Information, Inc.* v. *Atomic Energy Commission,* 156 U.S. App. D.C. 395, 481 F.2d 1079 (1973); *United States* v. *SCRAP,* 412 U.S. 669 (1973).

**(2) Risks to United States Population**

A second type of interest advanced by petitioners on behalf of their members involves risks to persons in the United States arising from (1) the increased danger of proliferation of nuclear weapons; and (2) possible theft of nuclear materials or sabotage of the Tarapur facility.

Petitioners appear to concede that the risk of injury to the members which could be conceivably imagined to arise in the United States as a result of granting the two nuclear fuel export licenses for Tarapur is shared in like measure by the entire population of the country. *Supplemental Memorandum on Timeliness and Standing Issues,* pp. 9-10. However, it is argued that the fact that injury to members may be "shared by the many rather than the few does not make them less deserving of legal protection through the judicial process." *Sierra Club* v. *Morton,* 405 U.S. 727, 735 (1972).

If petitioners allege a concrete and direct injury, their claim of standing is not impaired merely because similar harm is suffered by many others. However, if petitioners' "asserted harm is a 'generalized grievance' shared in substantially equal measure by all or a large class of citizens, that harm alone normally does not warrant exercise of jurisdiction." *Warth* v. *Seldin,* 422 U.S. 490, 499 (1975); *citing Schlesinger* v. *Reservists to Stop the War,* 418 U.S. 208 (1974); *United States* v. *Richardson,* 418 U.S. 166 (1974); *Ex Parte Levitt,* 302 U.S. 633(1937); *See also, Frothingham* v. *Mellon,* 262 U.S. 447, 488 (1923); *Flast* v. *Cohen,* 392 U.S. 83, 114 (1968). Petitioners here assert no more than a hypothetical and speculative "generalized grievance" shared in every respect by the entire domestic population of the country.

First, petitioners point to the fact that "plutonium may be either openly or clandestinely diverted by nation-states for fabrication into explosive devices which threaten international stability and world order, as well as the common

defense and security of the United States." *Petitions*, p. 4. Petitioners direct our attention to the line of causation which was considered by the Supreme Court in *United States* v. *SCRAP*. They assert that the potential harm from the Tarapur fuel shipments is more concrete than the harm of increases in discarded refuse considered in that decision. *See, Supplemental Memorandum on Timeliness and Standing Issues*, p. 13. However, this analysis fails to reflect that *SCRAP* dealt with a statute–NEPA–which has been interpreted by the courts to confer broad judicial standing to allow citizens to require government agencies to prepare adequate impact statements concerning the effects of their activities on the domestic environment. Here we deal with an export licensing proceeding under a statute whose legislative history and implementation contains no indication that public participation in export licensing was contemplated. More importantly, the chain of causation posited here–unlike SCRAP–requires an assumption of disregard by a foreign nation of multiple international undertakings. Of course, it is the function of the Commission and of the Department of State, each in its own sphere, to guard against these risks. These functions may need to be exercised, however, as the conduct of this country's foreign relations demands, in contexts which preclude the public adjudication of another nation's commitments and intentions.

The asserted threat that diversion of special nuclear materials from Tarapur by a terrorist group will cause domestic harm is also no basis for standing. We agree with our staff and the Department of State that this claim is "a generalized grievance shared in substantially equal measure by all or a large class of citizens." *Warth* v. *Seldin*, 422 U.S. 490, 499 (1975). The injury petitioners assert here would arise for each inhabitant of the United States for each export license for this reactor. Again, the Commission's responsibility for considering the possibility of diversion as one aspect of protecting the common defense and security of the United States does not establish that diversion would cause any concrete personal or direct harm to petitioners which would entitle them to a voice in its proceedings.

Additionally, on page 6 of their petition, petitioners argue that continued shipment of special nuclear material to Tarapur may aggravate operational problems and increase the threat of a major nuclear accident with repercussions "... for the health and safety of affected populations." If petitioners are here referring to persons in the United States as possibly affected by operations at Tarapur, we see no circumstances, and petitioners have shown none, in which health effects would be visited on the United States populace as a result of operations at Tarapur. Consideration of health and safety effects in foreign countries resulting from export licensing is outside the jurisdiction of this Commission, as we discuss below at greater length.

Before concluding our discussion of the standing issues in these proceedings, the Commission is mindful of the need to address factors set forth in its own regulations which must be considered in ruling on petitions for intervention in

licensing matters. The three following factors are set out in 10 CFR §2.714(d):

(1) The nature of the petitioner's right, under the Act, to be made a party to the proceeding.

(2) The nature and extent of the petitioner's property, financial or other interest in the proceeding.

(3) The possible effect of any order which may be entered in the proceeding on petitioner's interest.

Although the foregoing discussion has indirectly touched upon all these points, explicit consideration of the three points highlights petitioners' lack of standing. As discussed earlier, the petitioners' right to be made a party is dependent on the presence of an interest which may be affected by the proceeding. It has been demonstrated that, under current judicial concepts of standing, petitioners and their individual members do not possess the kind of concrete, identifiable interest which entitles them to demand intervention as a matter of right in the Tarapur fuel licensing proceedings. The nature of petitioners' interest has been shown to be highly conjectural, speculative, and remote. No qualifying interest has been shown, and hence the effect that any order which the Commission might issue in these proceedings would have upon petitioner's interest need not be decided.

Given our findings on these three factors, we must conclude that intervention as a matter of right by the Sierra Club, Natural Resources Defense Council, Inc., and the Union of Concerned Scientists is unsupported in law or fact. For the reasons we earlier stated, intervention as a matter of discretion is also denied.

## II. TIMELINESS

Since we have decided that Petitioners have failed to establish sufficient standing to entitle them to participation in these proceedings as a matter of right, it is unnecessary fully to decide the further questions of timeliness as respects these petitions. The Tarapur petitions were formally filed with the NRC on March 2, 1976 (the Commission was telephonically advised of the filing on the previous day, March 1). Petitioners' attorney, Mr. Eldon V. C. Greenberg, had been furnished with copies of the documents regarding these applications on January 29 or 30, 1976, thirty-three or thirty-two days before the filing of the petition. Mr. Greenberg, then representing NRDC and the Sierra Club, had actual notice of the existence and essential features of license XSNM-805 in mid-October of 1975, four and one half months prior to the filing of the Tarapur petitions. We therefore raised with the participants the question whether the petition in XSNM-805 had been timely filed.

While it is clear that the petition, as regards XSNM-805, is untimely as to the clients Mr. Greenberg represented at the time he learned of the license

application, attributing that untimeliness to UCS, which entered into a lawyer-client relationship with Mr. Greenberg only in February of this year, presents issues we should not decide absent need to do so. We deem it desirable, nonetheless, because of possible future interest in the export licensing process, to offer the following views as guidance on how the Commission will handle timeliness matters in the future.

The Commission's rule governing intervention is set forth at 10 CFR §2.714, which provides that "[t]he petition and/or request shall be filed not later than the time specified in the notice of hearing, or as provided by the Commission, the presiding officer, or the atomic safety and licensing board designated to rule on the petition and/or request, or as provided in 2.102(d)(3)." This rule assumes that procedures for convening a hearing have already been commenced, which is not the case here.

Because the petition for intervention in Tarapur is the initiating event in the process of determining whether a hearing shall be held, there are no regulations which set forth a definite time limit for the filing of petitions. However, NRC regulations generally provide a thirty-day period for filing in situations where a notice of hearing is published. Such notice is published promptly on docketing of the application. *See,* 10 CFR §§2.104 and 2.105. Section 189(a) of the Atomic Energy Act requires thirty days *Federal Register* notice of hearing, however, only for construction permits for facilities licensed under Sections 103 or 104. Because of their frequency, low individual impact, and the historical absence of controversy regarding them, materials licenses–foreign *and* domestic–have not been noticed in the *Federal Register.*[7]

The whole question of procedures to be followed in these matters, including consideration of the issues of public notice and timeliness is under current Staff review, which we anticipate may result in amendments to the Commission's Rules of Practice at an early date. Meanwhile, in evaluating what type of public notice is appropriate for nuclear material export licenses, we believe that a thirty-day notice period would be reasonable, unless in a particular case a shorter period is required. Based on our past experience, it is questionable whether there will be sufficient sustained interest in the numerous materials export licenses considered by the NRC each year, to warrant publication of every license application in the *Federal Register.* Pending completion of our overall study, we believe adequate public notice will be provided by posting applications received in the Commission's Public Document Room (PDR) together with a periodic mailing of recent filings to any requester with a particular interest in receiving them. Beginning last November 1, the Commission's policy has been to place the

[7] The Commission, by regulation, provides for *Federal Register* notice upon receipt of a facility export application. The regulations provide for thirty days notice, but permits the Commission, in its discretion, to establish a lesser period. The Commission traditionally has given fifteen days notice. 10 CFR §2.105.

entire unclassified portion of materials export licensing files in the PDR on a current basis. Henceforth, and pending any amendments to our regulations (*supra*), for any application so noticed we will regard petitions to intervene as timely only if filed within thirty days thereafter, or any shorter period specifically provided. We direct the Staff to prepare a *Federal Register* notice announcing this interim step.

## III. NRC JURISDICTION

Since we have determined that the petitioners have not met the prerequisite standing requirements of Section 189(a) of the Atomic Energy Act, petitioners have no right to the hearing they have requested. Nevertheless, the Commission's Rules of Practice contemplate that the Commission may in its discretion direct a hearing to be held even in the absence of a proper request under Section 189(a) if the Commission determines that such a hearing would be in the public interest. 10 CFR §2.105(a).

After examining the submissions of the petitioners, the Department of State, and NRC staff, the Commission has determined that a public proceeding to consider issues bearing on license applications XSNM-805 and XSNM-845 would be in the public interest.

In exercising its discretion as respects a hearing, the Commission must determine the appropriate hearing procedures, taking into account the nature of the issues raised by the petitioners, and the need to make its decision on the export applications as expeditiously as possible. Before discussing those procedures, however, we feel that some indication of the substantive scope of the Commission's jurisdiction as it relates to the petitioners' contentions is required.

Those contentions fall under three headings: procedural objections to granting the pending applications, NEPA objections, and substantive objections.

### A. PROCEDURAL OBJECTIONS

We note that all petitioners' procedural contentions are framed in terms of the Commission's own obligations in analyzing applications (as petitioners view those obligations), rather than the possible role of hearings or factual information adduced outside the framework of Executive Order 11902. The repeated complaint is that the Commission has not independently analyzed and made findings on specific matters, such as the health and safety risks of the Tarapur Atomic Power Station. However, any such analysis and findings in no way depend on the mechanism of a public hearing. For some of petitioners' assertions (*e.g.*, the Commission has not obtained back-up data, obtained raw files of physical security inspections, or consulted individually with Executive Branch agencies), a public hearing is simply irrelevant. For the remainder, we are essen-

tially asked to assume that, if we agree analysis would be relevant, petitioners have information to contribute in a public hearing format.

Let us take first the following of petitioners' procedural claims:[8]

2(a) That no public notice of the application has been given;

2(b) That the decisional criteria the Commission applies are inadequately defined;

2(d) That the Commission has not analyzed health and safety risks at Tarapur presented by the pending application;

2(i) That the Commission has not obtained back-up material from the Executive Branch;

2(j, in part) That the Commission has not obtained safeguards information or made analyses or findings regarding Indian facilities other than those at Tarapur;

2(k, in part) That the Commission has not had access to raw files of physical security inspections carried on by the Energy Research and Development Administration.

Regarding claim 2(a), petitioners conceded at the oral hearing on their petitions what is the case: that no legal obligation exists to give public notice of materials license applications, either for export or domestic use. As we have already indicated, the Commission has undertaken to place each application for an export license in its Public Document Room when received. Unclassified analyses and other information bearing on the applications are also placed there when received. Thus, as a matter of Commission policy, notice of export license applications is already available to the public. In the case of the subject applications, notice of our decision to hold a hearing on issues concerning them, as a matter of administrative discretion, will be published in the *Federal Register* in the near future.

Claims 2(b), 2(c), 2(i), 2(j), and 2(k), reflect a misunderstanding of the procedures adopted by the Executive Branch and the NRC for processing export license applications or, possibly, a claim that the procedures adopted are legally insufficient. The Commission has outlined factors it considers, to the extent they are not already established by the Atomic Energy Act, through the NRC Staff's statement of export licensing procedures placed in the NRC Public Document Room last January. A copy of that statement is appended to this opinion. Further definition may be developed in any opinions which may be issued upon the grant or denial of particular license applications. The Commission also has the question of suitable criteria under study, in a Staff analysis. However, existing statements, subject to the opportunity for any necessary refinement through the medium of opinions, are ample to permit continued decision pending the outcome of that study.

[8] The numbering of these claims follows that contained in the *Affidavit of J. Gustave Speth Identifying Contentions and Bases* which are attached to the original *Petition.*

As for the procedures adopted by the Executive Branch, these are defined in Executive Order 11902. The Commission believes the order creates a rational organization for Executive Branch contribution to Commission processes. It does not preclude additional consultations, the obtaining of back-up information, including information on Indian facilities other than the TAPS, or access to raw files of physical security inspections at ERDA, should the Commission determine that such measures would contribute to its analysis of a particular license application. Also, ERDA files of physical security inspections have been and are available to NRC. Moreover, an NRC official accompanied ERDA officials on their physical security visit in November 1975 to the Indian reprocessing facility being constructed at Tarapur, and informal staff consultations with responsible officers at Executive Branch agencies are frequent and profitable to NRC understanding.

Claim 2(d) suggests analyses which, in the Commission's view, lie outside its responsibilities in passing upon these export license applications. Claim 2(d) is directed entirely at health effects experienced in the vicinity of Tarapur. Without repeating at length the persuasive analysis filed herein by our Staff, we agree with them that it would be extraordinary, as a matter of international law, to conclude that we had authority to address ourselves to, or attempt to regulate, matters so clearly domestic to the Indian nation and within the purview of its own regulatory responsibilities. The Atomic Energy Act of 1954, while requiring us to make export decisions (as all others) with a view to the "common defense and security *of the United States,* "[9] notably omits reference to public health and safety in its provisions addressed to international matters.

Thus, Sections 3(e) on international cooperation and 123 on Agreements for Cooperation speak only to common defense and security; Sections of the Act which reference foreign activities (54, 57(b), 64, 82) are equally silent as to health and safety. Sections of the Act which speak to *domestic* distribution (53, 57(c)(2), 63, 81) make health and safety matters a proper condition on licenses. Section 103 covers licensing of production and utilization facilities both for domestic use and export. Although the provision mentions health and safety several times, when it speaks specifically of exports (Section 103(d)), the only qualification is that the transaction be under the terms of an agreement for cooperation. The health and safety standard appears only in the article's last

[9] *See,* Section 11(g), defining the term "common defense and security" for purposes of the licensing provisions of the Act. Petitioners' argument that the Commission could make public health and safety determinations without embarrassment, because it makes common defense and security determinations, overlooks this necessary qualification. We are empowered by the Atomic Energy Act to protect the common defense and security of the United States alone. So, too, with respect to public health and safety. Congress' omission of reference to public health and safety in dealing with exports signifies at best a recognition that domestic health and safety will not usually be significantly affected by foreign reactor operation.

sentence regarding licenses issued to "any person within the United States." Similarly, the general prohibition section of the Act (57) speaks of both domestic uses and exports. Its use of the health and safety standard occurs only in subsection c(2), however, which concerns distribution of special nuclear material "to any person within the United States." Neither the legislative history of the Act,[10] nor anything connected with the Energy Reorganization Act of 1974, suggest any different outcome, and, through its supervision of Agreements for Cooperation, Congress has long been aware of the Commission's view—reflected in its export licensing regulations—that only common defense and security considerations are relevant to export matters.[11] *Federal Register* notices of applications for facility export licenses have routinely contained the following language:

> "In its review of applications solely to authorize the export of production or utilization facilities, the Nuclear Regulatory Commission does not evaluate the health and safety characteristics of the facility to be exported." *General Electric Technical Service Co.; Application for and Consideration of Issuance of Facility Export License* [Docket No. 50-536] 40 Fed. Reg. 23123 (May 28, 1975)."

Inclusion of this statement in the *Federal Register* notice was a regular practice under the NRC's predecessor agency, the Atomic Energy Commission. *See, Gulf Oil, Inc., Notice of Application for and Consideration of Issuance of Facility Export License* [Docket No. 50-411], 38 Fed. Reg. 3000 (January 31, 1973).

---

[10] There is nothing in the material cited by petitioners on pages 27-28 of the *Supplemental Memorandum on Issues Other Than Timeliness and Standing* to suggest that legislators contemplated foreign health and safety reviews. The Senate Reports cited in that discussion (No. 1699 of 1954 and No. 1325 of 1964) recite the public health and safety criterion in connection with sections which pertain to both domestic and export licenses. The primary concern of the Congress in 1954 was the domestic development of nuclear energy. Therefore, we believe that expressions like those referred to by petitioners cannot be taken to impose standards for foreign activities unless specifically indicated. This is especially the case where the words public health and safety could be interpreted to refer to the health and safety of the American public. It is noteworthy that the specific discussion of International Activities contained in Chapter 11 of Senate Report No. 1699 says nothing about foreign health and safety concerns, although it does comment at length on common defense and security issues. It is significant, with respect to Senate Report No. 1325, that the section mentioned refers to *imports*, as well as exports. Of course, the Congress would have wanted to insure that health and safety considerations would apply to imported materials.

[11] *See*, 10 CFR §70.31(e). The Joint Committee on Atomic Energy's awareness of this practice has special significance in view of the unique relationship between it and the Commission. *See Union of Concerned Scientists* v. *Atomic Energy Commission*, 499 F.2d 1069, 1079 (D.C. Cir. 1974); *Siegel* v. *Atomic Energy Commission*, 400 F.2d 778 (D.C. Cir. 1968).

Although the situation is arguably different where a domestic health or safety impact might be expected, such a case is clearly not presented here.

Petitioners' remaining "procedural" claims, in summary, are:

2(e) That the Commission failed to analyze the possibility that, through exchanges of irradiated fuel under Article VI(c) of the Agreement for Cooperation, India may be able to circumvent safeguards;

2(f) That the Commission has not analyzed the risks associated with possible Executive Branch findings under the Agreement for Cooperation that India may undertake fuel reprocessing, or other actions;

2(g) That the Commission has not analyzed the adequacy and effectiveness of existing IAEA safeguards at Tarapur, and lacks the information to do so;

2(h) That the Commission has not analyzed whether the United States could effectively retrieve the special nuclear material now at Tarapur, should India breach its undertakings to the United States;

2(j, in part) That the Commission has not obtained safeguards information or made analyses or findings regarding Indian facilities other than those at Tarapur;

2(k, in part) That the Commission has not obtained information or made adequate analyses regarding physical security at Tarapur against sabotage, terrorism or theft;

2(l) That the Commission has not obtained information or made analyses regarding Indian plans for reprocessing and waste treatment of spent fuels at Tarapur, particularly since India could reprocess other (non-safeguarded) fuels at the same facility;

2(m) That the Commission has not obtained information or made analyses regarding Indian weapons development capacity and plans and other similar matters bearing on the risk that diversion from Tarapur might be attempted.

Although, as we noted above, each of these contentions is directed to the Commission's own processes rather than controversy about the underlying issues, we accept the proposition that additional information or analyses bearing on some of these matters may be relevant to the findings that the Atomic Energy Act requires of us. We wish to make clear that this acceptance does not signify agreement with the procedural claims set forth immediately above. We do not regard the nature or scope of the information available to the Commission, or of the analyses developed by it to be the subject of hearings before the Commission.

## B. NEPA OBJECTIONS

We find that neither of these licenses is a "major federal action significantly affecting the quality of the human environment." In contrast, the export pro-

gram as a whole is already the subject of a generic environmental impact statement prepared by the Energy Research and Development Administration, as petitioners are well aware. Many of the issues petitioners raise, including the adequacy of IAEA safeguards and U.S. responsibility for foreign health and safety impacts, are analyzed in that document. *See, Final Environmental Impact Statement on United States Nuclear Power Export Activities* [ERDA-1542], April 1976.

When one focuses on the particular licenses at issue here, none of the indicia of major federal action are present. Under the Commission's rules, licenses for nuclear reactor fuel as such, domestic or foreign, are explicitly not "major federal actions." 10 CFR §51.5(d)(4). The granting of a single such license involves no commitment to future action or additional environmental impact, beyond that of the subject fuel itself. As petitioners themselves recognize, the contribution of any particular license is itself merely incremental. The plutonium which will be created by irradiation of the fuel proposed for export is but a small proportion of the total already on hand, actually or potentially, in India.

We are fortified in this conclusion by our view that the focus of NEPA is the assessment of the domestic impacts of domestic activities. When the environmental impact claimed consists of radiation hazards to Bombay and its environs, the same principles which forbid application of the Atomic Energy Act to regulate foreign health and safety, foreclose consideration of the environmental balance. It is not for us to make policy decisions for another sovereign nation on the social balance to be struck between energy needs and environmental impacts. While petitioners have made their contrary view a litigation issue with the Commission (*See, Petitions*, p. 6), we are satisfied that the terms and history of the Act are most consistent with an interpretation which avoids speculation regarding another nation's internal affairs. Even if it were assumed that international impacts must be considered (and no great issue is made of this point by petitioners), impacts internal to a foreign nation need not be.[12]

## C. SUBSTANTIVE OBJECTIONS

In considering petitioners' substantive objections to granting these licenses, again, our only purpose at this time is to identify issues we regard as relevant to

[12] Of course, domestic impacts of these shipments must be considered. But we regard petitioners' suggestions that the domestic manufacture and transportation of this fuel constitute a "major federal action" as unsound. In this respect, the applications are indistinguishable from countless similar activities occurring annually, activities already adequately analyzed in generic environmental impact statements in part and for which a requirement of individual statements would trivialize the statute. *See,* Final Environment Statement, U.S. Nuclear Power Export Activities" (ERDA-1542), April 1976; "Environmental Survey of the Uranium Fuel Cycle" (U.S. AEC, WASH-1248), April 1974.

the forthcoming hearing, in order to permit the participants to focus their attention on areas which will be the most helpful to us. However, before beginning a detailed discussion of petitioners' contentions it might be useful to outline briefly our view concerning the scope and nature of our licensing authority, as it relates to other agencies of the federal government having responsibilities in this area. The following comments are consistent with views presented to the Congress most recently in Commission testimony before the Senate Government Operations Committee on January 30, 1976.

The Energy Reorganization Act of 1974, which established the Nuclear Regulatory Commission, also delegated to the Commission responsibility for regulating commerce in licensed special nuclear material so as to insure that no export would be permitted which was inimical to the common defense and security of the United States.[13]

Our decision on a particular license is not foreordained by the statutory judgment required for an Agreement for Cooperation under Section 123 of the Atomic Energy Act "that the performance of the proposed agreement will not constitute an unreasonable risk to the common defense and security of the United States." Obviously that judgment, rendered by the President and left undisturbed by the Congress before which an Agreement has lain, is entitled to great weight as an assessment of the circumstances at the time of the Agreement's execution. We are conscious, too, that such Agreements represent national undertakings, binding under international law. However, the existence of a valid Agreement is but one of the two statutory conditions to be satisfied for each individual export license. The other condition, that the export not be inimical to the common defense and security, must also be met in each case. The periods over which Agreements for Cooperation may be effective (up to 40 years) make it understandable why the initial common defense and security determination, made before entering into a particular Agreement, is not dispositive of whether an individual export, years or decades later, is inimical to this nation's common defense and security. In any event, by its terms, the Atomic Energy Act provides for periodic reexamination of these issues through the export licensing process.

It follows that the inimicality of the proposed exports to the common defense and security of the United States, and the conformity of proposed actions with the Agreement for Cooperation both constitute issues the Commission will be required independently to decide in these proceedings, giving due recognition to the weight to be accorded to Executive Branch views on such matters. *See, First National Bank* v. *Banco Nacional De Cuba*, 406 U.S. 756 (1972). We agree with the Department of State that only these issues are presented within the scope of these licensing proceedings.

While the Commission is consulted and deems itself at liberty to offer the

[13] This standard is derived from the Atomic Energy Act of 1954.

Executive Branch advice within the sphere of the Commission's functional competence, it is the President's responsibility, and that of Executive Branch agencies, to conduct the discussion which they deem advisable with other governments on the subject of nuclear nonproliferation. Similarly, although the State Department has offered to consult the Commission in the negotiation of Agreements for Cooperation,[14] the final responsibility for framing an Agreement lies with the Executive Branch. Setting aside for the moment the possibility of differing interpretations of any ambiguities of language, we must take the broad framework of an Agreement for Cooperation as we find it.

We turn next to the substantive objections petitioners raise against granting the requested export licenses for nuclear fuel to Tarapur. They are the following:

4(a) India is not a party to the Treaty on the Nonproliferation of Nuclear Weapons (NPT);

4(b) past and present friction between India and neighboring countries raises the specter of international conflict which might disrupt implementation of safeguards and physical security measures at Tarapur;

5(a) the U.S. has not required India to refrain from developing additional nuclear explosive devices;

5(b) the U.S. has not required India to place international safeguards on all its nuclear facilities;

5(c) the U.S. has not required India to refrain from developing enrichment and reprocessing facilities;

5(d) the U.S. has not required India to agree, prior to the shipment of nuclear fuel to Tarapur to safeguards and physical security requirements for any future reprocessing of such, should reprocessing be permitted;

5(e) The U.S. has not required India to establish any physical security requirements applicable to operations at Tarapur;

5(f) the U.S. has not required India to accept bilateral safeguards, supplementing the international safeguards applied by the IAEA at Tarapur;

5(g) the U.S. has not required India to agree to U.S. control over the disposition of plutonium produced at Tarapur;

6 the U.S. has failed to adequately protect the health and safety of the public; and

7 exports would be inconsistent with and would violate U.S. obligations under the NPT.

---

[14] *See,* Letter to Mr. Samuel J. Chilk, Secretary–U.S. Nuclear Regulatory Commission, from Mr. Myron B. Kratzer, Acting Assistant Secretary of State, dated March 19, 1976, Enclosure, p. 3.

In making its determination whether a given export pursuant to an Agreement for Cooperation is inimical to the common defense and security of the United States, the Commission must base its decision on whether the safeguards and the assurances given by the recipient government to insure that U.S. supplied fuel is not diverted from the use for which it was authorized. While the accuracy of claims 4(a), 4(b), 5(a), 5(b), 5(d), 5(e), 5(f), and 5(g) may be disputed, and we imply no determination as to the relevance of each to our ultimate action on the license applications, at this stage we are prepared to receive information and analysis bearing on these claims.

As for petitioners' allegation 7, that United States exports to Tarapur are inconsistent with and violate the NPT and are therefore inimical to the common defense and security, the Commission finds the view of the Department of State dispositive. The State Department, after examining the language of the NPT as well as its legislative history and the views of other NPT parties, has determined that exports to non-parties do not violate the Treaty if international safeguards are applied to individual exports pursuant to Article III of the Treaty. In support of this view, reference is made to IAEA Information Circular 66, revision 2. *See, Supplemental Responses of the Department of State,* pp. 36-44. Adrian Fisher, a principal U.S. negotiator of the NPT and supporter of the Petition to Intervene, concurred with this conclusion in recent Congressional testimony.[15] Since international safeguards *are* applied at the Tarapur Atomic Power Station pursuant to the U.S. Agreement for Cooperation with India, we question the relevance of testimony on this particular legal allegation.

Claim 5(c) is similarly over-stated. Although India may develop enrichment or fuel reprocessing facilities, these factors in themselves do not establish that individual exports to Tarapur cannot be adequately safeguarded, or that the exports under consideration fail the test of non-inimicality to U.S. national security. Of course, the existence of such facilities is a factor to be considered with respect to the ability adequately to safeguard the particular fuel at issue.

We have set out earlier in this opinion the reasons why the health and safety claims raised in Paragraph 6 will not be entertained.

As the foregoing discussion suggests, we expect the focus on the discretionary hearing described in Part IV of this Opinion, *infra,* to be those issues which pertain to the adequacy of the safeguards and related assurances applicable to this U.S. supplied fuel and any special nuclear material produced therefrom. Other considerations relevant to matters we must decide in connection with Tarapur licenses, such as the consequences for United States foreign policy of granting, denying, or delaying these export licenses, may also be addressed.

[15] Hearings on the Export Reorganization Act of 1976 before the U.S. Senate Committee on Government Operations, 94th Cong., 2d Sess., January 20, 1976; Hearings on the Export Reorganization Act of 1975 before the U.S. Committee on Government Operations, 94th Cong., 1st Sess. (1975), p. 447.

## IV. DISCRETIONARY HEARING PROCEDURES

At the conclusion of the March 17 preliminary hearing, the Commission asked the participants "... to submit in a filing to be received no later than the close of business on March 26, 1976, their views on hearing procedures that might be followed should the Commission, on the one hand, determine entitlement to a hearing as a matter of right, or on the other hand, find there is no such entitlement or that a hearing would be appropriate as a matter of discretion." *Transcript*, p. 98. The Commission has reviewed the responses received and has decided to hold legislative-type hearings on the issues raised by the two license applications under consideration. The basis for and format of those hearings are discussed below.

As background, the NRC Staff is now engaged in a review of our export licensing procedures, which the Commission initiated several weeks prior to the filing of the petitions in these proceedings. One of the issues which the Staff is considering is whether public participation in the export licensing process would be desirable, and if so, in what form. Since these requests for a hearing present a matter of first impression, and in light of the ongoing Staff study, we believe a frankly recognized, exploratory approach to the matter is the appropriate course at this time. A hearing on issues presented by the license applications now under consideration will help provide a base of practical experience which should assist us in formulating future policy.

Because of the absence of precedent for public hearings or other forms of citizen participation in export matters, not only in our own agency, but in many other fields having a foreign policy aspect, we believe that an experimental, exploratory approach is best calculated to reveal whether broader participation can assist the Commission in performing its export licensing function, and what the practical consequences of such participation may be. The hearings will serve as a forum where the public can state its views on the issues raised by these nuclear export license applications before the agency of the U.S. Government which has ultimate licensing authority. The Commission already has extensive information gathering and analytical sources available to it under existing interagency arrangements. Nevertheless, the questions raised by petitioners, insofar as they are relevant to the license applications now before us, raise some of the very issues the Commission considers in making an informed national security detemination.

The petitioners have suggested that discretionary hearings should follow the full adjudicatory format. Even if petitioners were entitled to a hearing as of right, the Commission does not believe that full adjudicatory procedures of the type specified in Part 2, Subpart G, of the Commission's regulations would be appropriate in considering discrete nuclear materials licenses. In recognition of the sensitive and complex foreign policy issues raised, modification of adjudicatory procedures in such circumstances is authorized by the foreign affairs

exemption to the Administrative Procedure Act, 5 U.S.C. §554(a)(4), and would be undertaken in advance of a formal hearing. Indeed, examination of such procedures is presently one focus of the NRC Staff study.

The practical difficulties of conducting an adjudicatory hearing should not be overlooked. An adjudicatory proceeding would produce a rather disjointed record. Questioning of witnesses could be expected to alternate frequently between public matters and confidential ones. Either the consideration of confidential responses would have to be postponed to a later time, or an executive session of the hearing would have to be convened, with the consequent inconvenience to parties, witnesses and public observers. Although cross-examination may be an effective tool where factual matters are in dispute, the issues here relate primarily to matters of law and policy. Even were that not the case, we believe that resulting delay, fragmentation of the record, and the inappropriateness of adversary confrontation concerning sensitive foreign relations matters all argue against using a trial-type approach.

A legislative format permits a more rational scheduling of witnesses, and a more ordered public record. Hearings more closely related to those typically used by legislative bodies will meet the petitioners' objective of presenting information and analyses regarding the issues involved in these two licenses before an appropriate government body. Even in this context, if a participant feels there are questions which need to be asked of the Executive Branch or other participants, those may be submitted to the Commission for possible use after review for relevance, materiality, and the likelihood that a full response would require reference to confidential information.

An open legislative type hearing can be conducted without prejudicing the important national interests on which export licensing determinations are based. Foreign nations that rely on the U.S. to supply their legitimate nuclear needs are accustomed to Congressional hearings on nuclear export and nonproliferation issues. Adjudicatory procedures are well suited to the resolution of concrete, factual disputes; broad public interests can be aired more appropriately and more effectively in an open public hearing of the type conducted by Congressional committees when they deal with similar issues. Indeed, one of petitioners' affidavits, submitted by Carl H. Marcy, former Chief of Staff for the U.S. Senate Committee on Foreign Relations, recognizes the value such hearings can have. *See, Appendix 2, Petitioners' Supplemental Memorandum on Timeliness and Standing Issues,* March 19, 1976, pp. 2-3.

In accordance with the views expressed above, we direct the NRC staff to prepare a *Federal Register* notice for publication by the Commission as soon as possible, noticing the hearings, the procedures to be followed and the time schedule to be observed, in conformity with this opinion.

The hearing format should incorporate the following features:

(1) *Federal Register* Notice of hearing to be issued;

(2) Oral hearings for the present participants in these proceedings, in-

cluding presentation of witnesses as well as any argumentation, to be held on or about June 3, 1976, and to be presided over by the Commission itself;

(3) Written comments to be invited from the present participants and any interested members of the public. For the public generally, these comments should be received by the Commission no more than fifteen days following publication of the *Federal Register* notice. For the present participants, the comments should be provided to the Commission and to the other participants on or before Monday, May 24, 1976, and should include the text of any factual or other statements intended to be presented at the oral hearing. On or before Tuesday, June 1, 1976, the participants may respond with suggested questions to be addressed to proposed witnesses at the Commission's discretion and/or rebuttal materials. The Commission may specify in advance of the hearing date the time available to the participants for their respective oral presentations, and may indicate areas which it would particularly wish to have addressed in oral testimony.

(4) Participants to be subject to questioning only from the Commission;

(5) The hearings to be open to the public, and a stenographic transcript made (however, the decision may be based in part on materials outside the record thus generated, since such hearings are not "on-the-record", within the meaning of the Administrative Procedure Act, 5 U.S.C. §§554-557);

(6) Discovery to be pursuant only to the Freedom of Information Act.

The time schedule will be as expeditious as is consistent with meaningful public participation, permitting the Commission to act on license applications XSNM-805 and XSNM-845 no later than June 1976. Because of the generic character of the issues raised, the Commission may act on one or both of these applications prior to the conclusion of the hearings if it finds that a need for greater expedition in acting on these licenses has been shown. The hearings would then be continued for the purpose of assisting the Commission in its determination of subsequent licenses for the Tarapur facility.

## V. REQUEST FOR FINANCIAL ASSISTANCE

Petitioners have requested that the Commission provide them with financial assistance to enable them to represent fully their views and the views of their members. *Petitions*, p. 10. The complex policy and practical issues raised by the concept of intervenor funding are being fully explored by this Commission in an ongoing rulemaking proceeding. 40 Fed. Reg. 37056. Pending that decision, we consider it would be inappropriate to authorize the expenditure of NRC funds to support their participation either in the preliminary proceedings already held

or in the future discretionary hearings described in Section IV of this Opinion. Therefore, petitioners' request for funding is denied without prejudice to its subsequent renewal.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D. C.
this 7th day of May, 1976.

## APPENDIX

**EXPORT LICENSING PROCEDURES** **January 1976**
**NUCLEAR REGULATORY COMMISSION**

When NRC receives an export license application, it will be distributed to relevant NRC staff and, at the same time, forwarded to the State Department, which will be asked for a presentation embodying the data NRC requires as well as the formal views of the Executive Branch on the given license request. The Executive Branch has informed the NRC that the Department of State will act as the lead agency within the Executive Branch for developing views in this area. Furthermore, the Department of State will consult other agencies throughout the Government, such as ERDA, DOD, and ACDA, for the purpose of developing all the necessary information within the purview of the Executive Branch which bears on the license decision.

For the purpose of assuring that the export will be used exclusively for peaceful purposes and will meet the "common defense and security" requirement of the Atomic Energy Act, the following information inter alia will be developed and assessed by the relevant agencies:

1. What is the purpose for the export?
2. Does the recipient country have an Agreement for Cooperation with the United States under Section 123 of the Atomic Energy Act, as amended? And, if so, is the export in question covered by the Agreement?
3. Has the recipient country accepted and implemented IAEA safeguards and/or other appropriate supplementary bilateral conditions (including, where applicable, understandings regarding re-export) imposed by the United States?
4. In cases in which the recipient country is not required by the NPT to accept IAEA safeguards, does the recipient country or organization have account-

ing and inspection procedures such as to assure compliance with the requirements of the relevant U.S. Agreement?

5. Does the recipient country have adequate physical security arrangements to deal with threats of sub-national diversion of significant quantities of nuclear weapon materials (plutonium or highly enriched uranium)?
6. What is the position of the recipient country with regard to nonproliferation (e.g., party to NPT, LANFZ, public statements)?
7. What understandings does the United States have with the recipient country with respect to the use of U.S.-supplied material or equipment to acquire or develop nuclear explosive devices for any purpose, and as to the recipient country's policies and actions as to such development using equipment and material from any source?
8. What other factors are there which bear on the issuance of the export license, such as further U.S. understandings with the recipient country, other supplier countries or interested regional countries?

While the NRC will not directly participate in the Executive agencies' development and evaluation of this information, NRC will be in regular staff level communication with the Executive Branch so that particular concerns of the Commission can be taken into account in the Executive Branch review.

The Executive Branch will then forward to the NRC an analysis of the pertinent and required information, as well as a coordinated Executive Branch view on the license application. The Executive Branch has advised us that if the involved Executive agencies should be unable to resolve any differences in view during the development of the analysis, these differences will then be resolved through the mechanism of the National Security Council and ultimately by the President himself, if necessary. The NRC will be made aware of this process by the Executive Branch.

The Commission will consider the Executive Branch presentation prior to making the NRC determination on the license. In reaching its decision, the Commission will also take into account all other matters of record in the licensing proceeding, including contributions to the record of its own staff, the applicant and such others who may be parties to the proceeding.

Within the NRC, issuance of the following licenses will be approved in advance by the Commission itself:

- Any license involving more than one effective kilogram of special nuclear material, as defined in 10 CFR Part 70;
- Any license involving 10,000 kilograms or more of source material;
- Any license for a production or utilization facility or major component thereof;
- Any other license having policy implications.

Routine applications not covered by the above criteria will be acted on, within NRC, by the NRC staff.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

CLI-76-7

**COMMISSIONERS:**
**Marcus A. Rowden, Chairman**
**Edward A. Mason**
**Victor Gilinsky**
**Richard T. Kennedy**

**In the Matter of**

**EDLOW INTERNATIONAL COMPANY**

**(Agent for the Government of India on Application to Export Special Nuclear Material)**

**License No. XSNM-805**
**Docket No. 70-2071**

**License No. XSNM-845**
**Docket No. 70-2131**

**May 21, 1976**

Upon motion by petitioners (in export licensing proceedings) for an extension of time to submit written comments and for deferral of the scheduled public hearing, the Commission takes into account an agreement by the petitioners and the Department of State encompassing both an amendment to one of the export license applications and an extension of time, and, as a result: (1) grants the requested extension and deferral to permit petitioners to prepare more thoroughly for the hearing; and (2) establishes a new time schedule for the hearing and indicates that it will review proposed statements by other individuals and determine whether to give such persons an opportunity to appear at the hearing.

## ORDER

On March 2, 1976, three organizations (Sierra Club, Natural Resources Defense Council, Inc., and the Union of Concerned Scientists) filed a Petition with the Nuclear Regulatory Commission seeking to intervene in these licensing proceedings for the export of low-encriched uranium fuel for use in the Tarapur Atomic Power Station near Bombay, India. After an exchange of written pleadings between Petitioners, the Department of State and the NRC Staff, the Commission held a preliminary hearing on the procedural issues posed by the Petitions on March 17th.

After a thorough review of the oral and written record in this matter, the Commission issued its Opinion on the preliminary issues on May 7, 1976. Among other things, the Opinion denied the Petitioners standing to intervene in this proceeding as a matter of right under Section 189 of the Atomic Energy Act of 1954. However, the Commission decided, as a matter of discretion, to hold a

legislative type hearing on the issues raised in connection with these license applications.

Therefore, the Commission directed the NRC Staff to prepare and publish a *Federal Register* notice, setting forth the details concerning the public, legislative type of hearing which the Commission intended to convene on or about June 3, 1976. The May 7th Opinion was served on the various participants in the preliminary proceedings on May 7, 1976. The resulting *Federal Register* Notice was delivered to the participants on May 14, 1976 and published in the *Federal Register* on May 17, 1976.

On the same day that the Commission's notice of hearing was served on the participants, the Petitioners filed a *Motion for Extension of Time to Submit Written Comments and for Deferral of Public Hearing.* That Motion sought deferral of the date on which proposed testimony for the hearing was due until July 8, 1976, a period of forty-five (45) days, with the hearing to follow. The *Memorandum of Points and Authorities* supporting the Motion cited two basic reasons for deferring the hearing. First, the Petitioners averred that "access to and an ability to critique all available information with respect to the Tarapur Atomic Power Station ("TAPS"), in particular, and the Indian stance vis-a-vis non-proliferation, in general, is likely, at least on some issues, to be critical to the presentation of meaningful, in-depth comments at the public hearing." Attached to the Petitioners' Motion, therefore, were requests for information concerning these matters under the Freedom of Information Act. The Petitioners asserted that ". . . until Petitioners and their experts have had an opportunity to examine materials made available, any presentation of views to the Commission would necessarily be premature." The second reason for deferral presented was that ten (10) working days would be "to short a time to assemble expert witnesses and to prepare all relevant submissions."

On May 20, 1976 the Commission was served with the *Response of the Department of State to Petitioners' Motion for Extension of Time to Submit Written Comments and for Deferral of Public Hearing.* We note that this *Response* also constitutes agreement between attorneys for the Petitioners and the Department of Justice (acting on behalf of the Department of State) respecting the scheduling of the oral hearing and the receipt of written comments, as well as the filing of an amended license application in XSNM-805. In this regard, the *Response* noted the statement in the Petitioners' Motion of May 14th that, if action on license application XSNM-805 "is necessary," ". . . then the Commission should act on that application but do so specifically without prejudice to full consideration of the issues raised by Petitioners with respect to license application XSNM-845."

After obtaining further information from the Indian Government concerning fuel supply conditions at the Tarapur Atomic Power Station, the Department of State represents that the quantities of material reflected in the present appli-

cation SXNM-805 would not be sufficient to sustain the requirements of the nuclear fabrication process supporting the Tarapur reactor during the period of delay Petitioners propose. The Department of State and Petitioners have agreed that, in order to permit an extension of time adequate for preparation for hearings, an amended license application filed for XSNM-805 would be both appropriate and unobjectionable. The Response states that the amended application would be for "three tons of 2.1% U-235 and six tons of 2.66% U-235. License Application No. XSNM-845 will be appropriately reduced by six tons." The letter dated May 21 from the Edlow International Company was more specific, indicating that the quantities in amended XSNM-805 would be "231.28 kgs U-235 contained in 9165.6 kgs U enriched to a maximum of 2.71%." In light of the agreement of the participants to an extension of time for the hearing, the Petitioners agreed not to raise further objection to the granting of amended License No. XSNM-805. The agreement between the participants was made "on the condition that this does not involve a waiver of any legal arguments with respect to the merits of granting License XSNM-845 and that it is without prejudice to legal rights or arguments raised in both XSNM-805 and XSNM-845."

In view of the new information obtained by the Department of State, and the agreement between the Petitioners and the State Department, which has been concurred in by the NRC Staff and the Edlow International Company as Agent for the Government of India, the Commission believes that an extension of time would be appropriate in these proceedings. Therefore, a revision of our earlier *Federal Register* notice will be prepared, to be consistent with the following points:

(1) the time for receipt of written comments will be extended to July 8, 1976. These comments shall include the text of any factual or other statements intended to be presented at the oral hearing

(2) the oral hearing in this matter will be rescheduled for the week of July 19, 1976, with a further, specific notice as to the date to be published at least 30 days before the hearing date;

(3) individuals other than those who made presentations at the Commission's March 17th hearing may file comments concerning the matters discussed as appropriate for the hearing in the Commission's Opinion of May 7th, with a statement as to their interest in appearing at the oral hearing. The Commission will promptly decide whether to admit such new participants to the oral portion of the proceeding and will notify each individual of its decision well before the hearing date.

The Commission intends to act as expeditiously as possible in its review and consideration of the amended License application XSNM-805 when that amended license application is filed. Neither the decision announced today on the request for extension of time, nor any decision on amended license

XSNM-805 will bind the Commission's judgment of the issues to be considered in the forthcoming hearing and decision.

For the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.,
this 21st day of May 1976.

UNITED STATES CLI-76-8
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:
Marcus A. Rowden, Chairman
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of Docket No. 50-155

CONSUMERS POWER COMPANY

(Big Rock Point Nuclear Power Station) May 26, 1976

The Commission finds good cause to grant the licensee a plant-life exemption from certain ECCS requirements, as set forth in 10 C.F.R. Part 50, 50.46 and Appendix K, and an exemption from other requirements until the refueling outage scheduled for spring, 1977, subject to certain conditions.

TECHNICAL ISSUES DISCUSSED: ECCS

## MEMORANDUM AND ORDER

### I. BACKGROUND

In our Memorandum and Order of December 31, 1975 (CLI-75-15) we granted to Consumers Power Company two limited exemptions from the ECCS acceptance criteria (10 CFR 50.46). We also requested further information from the Director of Nuclear Reactor Regulation and from Consumers Power Company concerning the possibility of granting a requested plant-life exemption from the ECCS failure criterion of 10 CFR Part 50, 50.46 and Appendix K, Paragraph I.D.1 as applied to a loss-of-coolant accident (LOCA) caused by a break in a core spray line and a concurrent single failure of a valve in the remaining core spray system. In response to this request, the Director submitted comments on January 7, 1976 suggesting that certain additional analyses be performed and possible system modifications be considered by the applicant to enhance operating reliability. Accordingly, Consumers Power Company on February 27, 1976 submitted an extensive "Report on Evaluation of Adequacy of Emergency Core Cooling System," together with a renewed request for a plant-life exemption from the Emergency Core Cooling System (ECCS) failure criterion for the Big Rock nuclear facility.

Receipt of this request was duly noted in the *Federal Register* on March 15,

1976, and views and comments from the public were invited. An extension of time for comments by the Director of Nuclear Reactor Regulation and by the public was granted by order of April 5, 1976. The extended period for comment has now closed. Two comments opposing the exemption request were received from the public. The Director's comments were submitted on April 19, 1976.

The facility has been shut down for refueling and modifications since January 31, 1976. We informed the applicant on March 10, 1976 that the earlier temporary exemption granted by the Commission's Memorandum and Order of December 31, 1975 (CLI-75-15) had expired and that start-up of Big Rock Point in non-compliance with the failure criterion would not be permitted unless the Commission granted a further appropriate exemption.

The Director recommends that this exemption be granted, subject to several conditions which would have to be met prior to operation.[1]

The Director would also impose additional conditions to be met before operation resumes after the 1977 refueling outage.[2]

---

[1] The Director's summarized recommendation is that prior to return to operation the applicant shall:

a) Provide an analysis of the ECCS performance which properly demonstrates that in the event of a break in a core ring spray line, the feedwater system and the flow through the core spray nozzle will reliably provide sufficient core cooling water unless adequate spray distribution of the nozzle has been demonstrated.

b) Enhance the reliability of the core ring spray system by augmented surveillance to provide reasonable assurance that the core ring spray system can, by itself, provide reliable and adequate core cooling for a LOCA not allowing reflooding unless adequate spray distribution of the nozzle has been demonstrated.

c) Modify the emergency procedures to assure a second emergency diesel will be obtained and operational within 24 hours after a LOCA.

d) Augment the surveillance of ECCS to enhance its reliability in a method acceptable to the staff.

e) Protect the controls, indication and annunciation circuitry associated with the ECCS, including the core spray valves, as approved by the staff, against the consequences of flooding following a LOCA which affect the ability of the ECCS or plant operator to take corrective action during the course of a LOCA.

[2] The Director recommends in summary that prior to return to operation following the refueling outage currently scheduled for spring, 1977, the applicant shall:

a) Modify the fire protection system such that long-term cooling can be accomplished without relying on portions of its underground piping.

b) Provide test data showing the adequacy of the nozzle spray distribution during expected usage conditions or modify the nozzle spray system to provide adequate spray distribution.

c) Modify the emergency diesel generator and diesel driven fire pump to bypass protective trips during accident conditions except for retention of engine overspeed and generator differential trips unless additional trips are approved by the staff.

d) Provide complete on-line testability on the ECCS including the actuation system.

The Director's recommendations are based upon an extensive review of the adequacy of the Big Rock Point ECCS initiated by the information request contained in the Commission's December 31, 1975 Memorandum and Order. The above-mentioned "Report on Evaluation of Adequacy of Emergency Core Cooling System," submitted by Consumers Power Company on February 27, 1976, reviewed ECCS performance as a whole, including both short term and long term cooling.

Subsequent interaction between Consumers Power Company and the Nuclear Regulatory Commission Staff refined still further the analysis of the Big Rock Point ECCS. On March 26, 1976 the applicant submitted a detailed supplement to its earlier report and responded to twenty ECCS-related questions from the staff. Also on March 26 the Director submitted comments and a request for extension of time until April 19 for filing recommendations. Pursuant to 10 CFR 2.808(b) the Secretary of the Commission granted the extension and also extended the period for public comment to April 14, 1976. No additional public comments were received.

## II. NEED FOR EXEMPTIONS

The above-described thorough review by the staff and the applicant has established that several deficiencies exist at Big Rock Point for which exemption from requirements of 10 CFR Part 50, 50.46 and Appendix K is needed if the facility is to resume operation. A rigid requirement that the facility meet the above-referenced provisions of Part 50 prior to start-up and that no alternative measures be considered would postpone significantly the date at which Big Rock Point could return to operation. (The applicant's February 27 report notes, for example, that over a year would be required for delivery of additional valves needed to bring the facility formally into compliance with the failure criterion as applied to a break in either core spray line).

An exemption can be granted, however, only if reasonable assurance is provided that operation of the plant will meet an acceptable level of safety. We observe that a plant like Big Rock Point, which is a relatively small facility (72 MW(e)), need not necessarily comply with all the requirements applicable to a large plant in order to provide adequate assurance of public health and safety. Moreover, the NRC approach to safety—built as it is on the defense-in-depth concept—does not necessarily require each new safety design feature to be incorporated in every nuclear plant to provide protection for the public or that, when backfitting is called for, the timing be inflexibly fixed irrespective of special circumstances. For this reason, the ECCS acceptance regulations provide for the possibility of exemptions when an appropriately high level of safety is in fact achieved and the public interest is served.

This is not to say, however, that older plants like Big Rock Point are allowed to maintain a *status quo* situation. We have not hesitated to require

backfitting at older plants where significant safety improvements would thereby be achieved. At Big Rock Point, for example, extensive modifications to the ECCS were completed in 1971 (addition of a redundant core spray system) and during the present refueling outage (installation of a reactor depressurization system).[3] The overriding question which we must now decide regarding this exemption request is whether an acceptably high level of safety is maintainable at Big Rock Point in its present configuration, or whether further extensive backfitting must be required before the plant may operate.

As we now review in some detail, the Director's technical judgment is that the core cooling capability of the systems installed at Big Rock Point is adequate to provide reasonable assurance of public health and safety under the conditions for operation which the Director recommends. The Director's comments, insofar as they bear directly on the exemption which we now consider, analyze three problems, all relating ultimately to the consequence of the unavailability of one or the other core spray systems. These are (1) vulnerability to a single failure disabling a core spray line, following a break in the alternate core spray line; (2) vulnerability to a single failure disabling the on-site power supply, following a loss of coolant accident, in the event off-site power is unavailable; and (3) uncertainty regarding adequacy of the nozzle spray distribution.

With respect to the request for a plant-life exemption from the failure criterion as applied to a break in either core spray line, followed by a failure of the alternate core spray system, the Director notes that in these circumstances the feedwater system (a non-ECCS component) provides adequate core cooling capacity. Accordingly, the Director finds good cause to grant a plant-life exemption when the overall program for enhancing ECCS reliability is implemented through the Director's recommended conditions.[4]

With respect to the on-site electric power supply, Big Rock Point has only one on-site diesel generator and does not meet the failure criterion requirement that the ECCS short term and long term cooling functions be invulnerable to a

---

[3] The two comments opposing the present exemption stress that Big Rock Point has in the past received several exemptions from the ECCS criteria and appear to conclude that the present request represents an attempt to perpetuate a pattern of unjustified non-compliance with the Commission's regulations. These comments fail to mention that significant modifications have been made at the Big Rock Point facility and that the exemptions were in every case granted pursuant to findings of good cause and a determination that public health and safety would be reasonably assured. We do not believe it would be fair to the applicant or in the public interest to follow the rigid approach suggested by the commenters by denying the present request, without regard to its individual merit, largely on the grounds that related exemptions have been granted previously.

[4] An analysis of feedwater cooling capability was submitted by Consumers Power Company on May 10, 1976 in response to the Director's recommended condition (a) (see note 1 above) and indicates that in the event of a LOCA caused by a break in the core ring spray line the feedwater system will prevent uncovering of the core.

single failure which disables on-site power, assuming off-site power is not available. In view of the unusually high availability of off-site power at Big Rock Point,[5] together with improved reliability of the on-site diesel and guaranteed availability of a back-up diesel for long term cooling pursuant to the conditions the Director would impose, the Director likewise finds good cause to exempt Big Rock Point from this requirement.

The Director's comments consider in detail the issue of adequacy of the nozzle spray distribution, a question earlier addressed by Consumers Power Company in its March 26 supplement. Pending further tests to demonstrate the adequacy of the spray distribution, the Director takes the conservative position that Consumers Power Company must provide reasonable assurance that the core ring spray system can, by itself, provide reliable and adequate core cooling in the event of a LOCA for which reflooding by means of the feedwater system does not provide adequate cooling. Failure probability calculations performed by the applicant's consultant, NUS Corporation, and attached to the March 26 supplement show that a program of more frequent valve testing can significantly enhance the reliability of the Big Rock Point ECCS. Thus the Director finds that augmented surveillance of the ring spray system provides sufficient assurance of safety to permit operation for a limited period, until the spring, 1977 refueling outage. Prior to start-up following this outage the adequacy of the nozzle spray distribution would have to be confirmed, or the nozzle spray system modified to provide adequate distribution.

## III. CONCLUSIONS

In view of the considerations outlined in the Director's analysis we are satisified that granting the requested exemption and thereby permitting Big Rock Point to resume operation, subject to the recommended conditions, would maintain an acceptably high level of protection to public health and safety. The economical production of electric power through operation of this plant in a manner that provides adequate protection of the public is clearly in the public interest. Replacement power would have to be provided by burning expensive fossil fuels. Therefore we find good cause to grant the exemption.

Our review of the Director's comments, however, led us to inquire concerning the procedural question whether the March 15, 1976 *Federal Register* Notice of the exemption request directed to the "specific case of a break in either core spray line" is sufficiently comprehensive to encompass the exemption recommended.

Pending resolution of the uncertainty concerning the nozzle spray distribution, we must conservatively treat Big Rock Point as vulnerable to a loss-of-

[5] The Director's comments note that in view of the small size of this plant compared with the system capacity, trips of the plant due to internal causes are relatively unlikely to cause a loss of off-site power.

coolant accident from any cause followed by a concurrent single failure in the ring spray system and therefore in this respect in need of exemption from the ECCS failure criterion. At issue is the question whether notice of this exemption sufficient to meet the requirements of Section 189(a) of the Atomic Energy Act of 1954, as amended, and of the Commission's regulation (10 CFR 2.105) has been given. Accordingly, we requested the Director and Consumers Power Company to present views on the question whether the exemption from requirements of 10 CFR 50.46 which Big Rock Point needs to resume operation at the end of the current refueling outage is fairly comprised within the exemption request now pending before the Commission.

The responses of the Director and of the applicant, respectively dated May 17 and May 18, 1976, and our own further analysis persuade us that the March 15 published notice was sufficiently comprehensive. Both the Director and applicant point to the fact that the components whose reliability is under review in the context of a break in a core spray line are exactly the same components involved in the response of the ECCS to a LOCA caused by a break in some other location. The first public notice that reliability of valving in the Big Rock Point ECCS was at issue appeared August 26, 1975 in the *Federal Register* notice of receipt of the original plant-life exemption request, treated by our December 31, 1975 Memorandum and Order. On March 15, 1976 expanded notice was given that the reliability of core spray components was at issue in this exemption proceeding.

This notice made clear that the deficiency at Big Rock Point for which exemption was requested is the circumstance that either core spray line may be disabled by a single failure in certain components. Thus, the March 15 *Federal Register* Notice apprised interested members of the public that the Commission was considering an exemption of the nature and scope of the exemption now recommended by the Director. The introduction of the nozzle spray distribution question did not change the central focus of the inquiry, namely, the reliability of a core spray system to provide needed core cooling when the alternate system is postulated to be unavailable.

We believe, moreover, that the public received adequate notice that the specific question of nozzle spray distribution adequacy was under consideration in the exemption proceeding. The nozzle spray adequacy question is addressed in the record in the applicant's supplemental submission of March 26, 1976, following which, we note, the Secretary of the Commission granted an extension of the period for public comment. We note, moreover, that actual notice (as contrasted with constructive notice through *Federal Register* publication) was afforded to those members of the public who had expressed interest in this matter and in the present licensing status of the Big Rock facility. Both the March 26 supplement and the Director's April 19 comments, which considered the nozzle spray question more fully, were served on the two public commenters who opposed the exemption. These documents were also served on the partici-

pants in a license amendment proceeding involving Big Rock Point but otherwise unrelated to the exemption request. In view of this direct notice to all parties who have shown interest in the facility as well as to those who have commented in this exemption proceeding, a third, and unrequired, round of notice in the *Federal Register* is of dubious practical value.

Finally, because the Director's recommended conditions would enhance the reliability of the existing ECCS and particularly of the core ring spray, no additional safety question is raised when the cause of the postulated LOCA is extended to breaks other than in the core spray line, since the core ring spray is adequate by itself to provide the necessary core cooling following any LOCA up to and including that caused by the double-ended rupture of the largest pipe in the reactor coolant system.

In summary, based on the detailed recommendations in the Director's comments and pursuant to 10 CFR 50.46(a)(2)(vi) we find that good cause has been shown to grant the following exemption from the requirements of 10 CFR 50.46:

a) Consumers Power Company is granted a plant-life exemption subject to the conditions in paragraph (d) below for the Big Rock Point facility from the failure criterion requirements imposed by 10 CFR Part 50, 50.46 and Appendix K, Paragraph I.D.1, insofar as applied to the specific case of a loss of reactor coolant caused by a break in either core spray system.

b) Consumers Power Company, Big Rock Point facility, is granted an exemption subject to the conditions in paragraph (d) only until the refueling outage currently scheduled for spring, 1977, from the failure criterion requirements imposed by 10 CFR Part 50, 50.46 and Appendix K, Paragraph I.D.1 as applied to a loss of coolant accident followed by a concurrent single failure in the ring spray system.

c) Consumers Power company, Big Rock Point facility, is granted a plant-life exemption subject to the conditions in paragraph (d) from requirements in 10 CFR 50.46 that long term recirculation mode cooling be maintainable, despite the failure of the on-site diesel generator, in the absence of off-site power.

d) The stated exemption is granted subject to the following conditions, which must be met to the satisfaction of the Director of Nuclear Reactor Regulation:

(1) Prior to further operation of Big Rock Point, Consumers Power Company shall:

(i) Provide evidence satisfactorily demonstrating adequate spray distribution of the nozzle, *or*

(ii) Provide an analysis of the ECCS performance which properly demonstrates that in the event of a break in the core ring spray line, the feedwater system and the flow through the core spray nozzle will reliably provide sufficient core cooling water; and enhance the

reliability of the core ring spray system by augmented surveillance of the valves and valve actuating circuits, or by other modifications or procedural changes which provide reasonable assurance that the core ring spray system can, by itself, provide reliable and adequate core cooling for a LOCA at a location where reflooding does not provide such cooling.

(2) Prior to further operation of Big Rock Point, Consumers Power Company shall:

(i) Modify the emergency procedures to assure that a second emergency diesel will be obtained and can be made fully operational within 24 hours after a LOCA.

(ii) Augment the surveillance of ECCS availability, including the ECCS actuation system, to enhance its reliability;

(iii) Protect the controls, indication and annunciation circuitry associated with the ECCS, including the core spray valves, against the consequences of flooding following a LOCA which affect the ability of the ECCS or plant operator to take corrective action during the course of a LOCA.

(3) Prior to return to operation following the refueling outage currently scheduled for Spring 1977, Consumers Power Company shall:

(i) Modify the fire protection system such that long term cooling can be accomplished without relying on portions of its underground piping.

(ii) Provide test data showing the adequacy of the nozzle spray system to provide adequate spray distribution during expected usage conditions or modify the nozzle spray system to provide adequate spray distribution.

(iii) Modify the emergency diesel generator and diesel driven fire pump to bypass protective trips during accident conditions except for retention of engine overspeed and generator differential trips, unless additional trips are approved by the Director.

(iv) Provide complete on-line testability at the ECCS, including the actuation system.

It is so ORDERED.

By the Commission

John C. Hoyle
Assistant Secretary of the Commission

Dated at Washington, D. C.
this 26th day of May, 1976

**Dissenting Opinion of Commissioner Gilinsky:**

I am satisfied that granting the pending exemption request for the Big Rock Point nuclear reactor, subject to the conditions recommended by the staff, is consistent with our responsibility to protect the public health and safety. The requirements of the law do not stop there, however. Where a "significant hazards consideration" within the meaning of section 189 of the Atomic Energy Act is involved, as there is in this case, the Commission can issue an amendment to an operating license, in the absence of a request for a hearing, only after a thirty days notice period following publication in the *Federal Register* of its intent to do so. The relevant notice here is the one published in the *Federal Register* on March 15, 1976 which proposed exemptions from the failure criterion of 10 CFR 50.46 as it relates to "the specific case of a break in either core spray line." 41 Fed. Reg. 10969. One of the exemptions we now propose to grant relates not to a break in core spray line—a small pipe whose rupture would lead to a slow loss of coolant—but to a possible break in a large pipe whose rupture could lead to rapid loss of coolant. In this case, given an assumed nozzle spray deficiency, emergency cooling is vulnerable to any single failure which disables the core ring spray, for example failure of a core ring spray valve to open. The nozzle spray problem was not referred to until the applicant's March 26, supplement and was not recognized as a serious problem until the staff's April 19, 1976 comments. To provide reliable emergency core cooling in the event of large breaks,[1] the staff has insisted upon a new remedy: augmented surveillance of the core ring spray valves. I am satisfied that this remedy will adequately protect the public during the period of the proposed temporary exemption. It is also plain to me, however, that these new matters are not covered by the *Federal Register* notice described above, and that the requirements of the law concerning public notice have not yet been met. I therefore cannot join my colleagues in the grant of this exemption until the public notice requirement has been satisfied.

[1] The staff refers to these as "breaks at locations for which reflooding of the core is not possible," Staff Comments p. 13.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-329

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of — Docket Nos. 50-458

GULF STATES UTILITIES COMPANY — 50-459

(River Bend Station, Units 1 and 2)

Upon appeal in construction permit proceeding by an "interested State" of the Licensing Board's oral ruling that the State's identification of issues which it sought to raise had not been set forth with adequate specificity, the Appeal Board rules that the appeal is interlocutory and not authorized by 10 CFR 2.714a.

Appeal dismissed.

RULES OF PRACTICE: APPELLATE REVIEW

Only those orders which are directly concerned with the grant or denial of status as intervenor are excepted by 10 CFR 2.714a from the general prohibition against interlocutory review. A party may not invoke that section to obtain interlocutory review of an order which does no more than to exclude from consideration in the proceeding certain (but not all) of the issues which it has sought to raise.

RULES OF PRACTICE: APPELLATE REVIEW

The division of a proceeding into two segments for convenience purposes does not create two separate proceedings. A party barred from participation in one but not both segments may not appeal a ruling leading to that result under 10 CFR 2.714a.

RULES OF PRACTICE: APPELLATE PROCEDURE

An immediate appeal may be taken in the case of an outright denial of a petition for leave to intervene submitted under either 10 CFR 2.714 or 10 CFR 2.715(c).

Messrs. Troy B. Conner, Jr., and Mark J. Wetterhahn, Washington, D.C. (Mr. Stanley Plettman, Beaumont Texas, of counsel) for the applicant, Gulf States Utilities Company.

Mr. Anthony Z. Roisman and Ms. Karin P. Sheldon, Washington, D.C., for the State of Louisiana.

Mr. Lawrence Brenner for the NRC Staff.

## MEMORANDUM AND ORDER

## May 10, 1976

A. As is reflected by ALAB-317, NRCI-76/3 175 (March 4, 1976), one of the participants in this construction permit proceeding is the State of Louisiana. Although choosing not to seek intervention as a party under Section 2.714 of the Rules of Practice, 10 CFR 2.714, the State availed itself of the provisions of Section 2.715(c), 10 CFR 2.715(c), which explicitly authorize an "interested State" to play an active role in a licensing proceeding without being required "to take a position with respect to the issues." In that capacity, the State involved itself significantly in the evidentiary hearing last year directed to environmental and site suitability issues. Moreover, being dissatisfied with the resolution of some of those issues in the Licensing Board's September 2, 1975 partial initial decision,[1] the State appealed that decision to us. The appeal was successful in significant measure. Agreeing with the State that the record did not provide adequate evidentiary support for the Licensing Board's findings pertaining to fuel utilization efficiency, in ALAB-317 we vacated those findings and directed the taking of further evidence on that matter.

Shortly thereafter, the Licensing Board held a prehearing conference to consider scheduling and other matters concerning both the remanded question and those radiological health and safety issues which had not as yet been heard. On the latter score, the State was informed that it would be expected within seven days to identify any additional health and safety issues (beyond those "already in the case") which it wished to have explored at the hearing (Tr. 1367, 1391-92). The Chairman of the Licensing Board explained that it desired to avoid new issues being suggested by the State during the course of the hearing, which in turn might necessitate a twelfth hour search for expert witnesses to address them and, additionally, a deferral of the completion of the hearing to permit the receipt of their testimony (Tr. 1367). In its Third Prehearing Conference Order issued on March 17, 1976, the Board reaffirmed its earlier determination that the hearing would commence on April 6, 1976 and said with respect to the requirement it had imposed upon the State:

> The State's attorney was also advised that the Board will not countenance the rather loose procedure followed in last year's hearing sessions, i.e., the

[1] LBP-75-50, NRCI-75/9 419.

State bringing up, *de novo*, new major issues or subject areas as it goes along in its cross-examination during the hearing. The Board allowed this last year because of the State's very late re-entry into the case (virtually right before the start of the hearing) with little or no prior preparation time. As pointed out by the Appeal Board in ALAB-317 (*cf.*, slip op. 9, n.7), an "interested State" is not, by reason of that status, relieved of the obligation of complying with all procedural rules, and it is subject to all the same requirements which must be observed by other parties appearing before the Board. The State has now been actively participating in this proceeding for over a year. Accordingly, and to avoid proceeding by way of "surprise," the State has been advised that it must apprise the Board and all parties by no later than March 19, 1976 (Tr. 1367, seven days from the prehearing conference) of precisely what additional issues or particular concerns it believes are directly related, i.e., relevant, to the radiological health and safety phase of this construction permit application and this particular proposed plant, beyond the contested issue already in the case. They need not be in the form of specific contentions, but they must be issues that are relevant, material and narrow enough to permit evidentiary determination in an adjudicatory setting. (See Tr. 1366-1367, 1370-1371). The Board will promptly rule on the admissibility of such issues. Of course, the Board is distinguishing here between "raising questions" (i.e., major subject areas or issues) and "asking questions" (i.e., relevant cross-examination on issues already in the case). As to the latter, no advance notice is requested or required.

At its request, the time for the State's submission was later extended to March 26, 1976. On that date, the State filed a document entitled "Statement of Safety Issues." This filing was supplemented on March 30, 1976.

The hearing commenced as scheduled on April 6. On that day and the following day, the Licensing Board heard extended argument by the parties on the sufficiency of the State's identification of issues (Tr. 1516-35, 1636-56). At the conclusion thereof, the Board orally ruled that the issues which the State's submission sought to raise had not been set forth with the degree of specificity necessary to provide fair "notice to other parties as to what is being contended or what must be disproven" (Tr. 1658). In this connection, the Board observed:

> Under Section 2.715(c) of the Commission's Rules of Practice, a State which is not a party must be afforded a reasonable opportunity to participate, to introduce evidence, interrogate witnesses and advise the Commission without being required to take a position on specific issues in the proceeding.
>
> The Board interprets this to mean that a state may sit back and cross-examine on issues already in the case without raising any issues of its own. But at the same time, if the State wishes to raise specific issues of its own,

we believe it may do so; that is, we believe Section 2.715(c) does not prohibit a state from raising specific issues of its own, as the state has done here.

However, if a state chooses to do so, it must do so in [a] timely and specific manner. The issues raised must be narrow and specific enough to be amenable to adjudication in a licensing proceeding and give a fair opportunity to other parties to know precisely what the limited issues, exactly what proof, evidence or testimony is required to meet that issue and exactly what support the State intends to adduce for its allegations.

[Tr. 1657-58].

Invoking 10 CFR 2.714a, the State now seeks to obtain our interlocutory review of the ruling below. Although its notice of appeal was not forthcoming within five days of the rendition of the ruling as required by 10 CFR 2.714a, for alleged good cause the State asks leave to file it out of time.

B. We need now decide whether the notice of appeal was untimely[2] and, if so, whether good cause has been established for the failure to have filed it more promptly.[3] This is because it is perfectly clear that, in any event, an appeal from the ruling in question is not authorized by Section 2.714a.

As we have frequently held, Section 2.714a excepts from the general prohibition against interlocutory appeals[4] only those orders which are directly concerned with the grant or denial of status as an intervenor. See *e.g.*, *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-168, 6 AEC 1155 (1973); *Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-176, 7 AEC 151 (1974); *Philadelphia Electric Co.* (Fulton Generating Station, Units 1 and 2), ALAB-206, 7 AEC 841 (1974); *Boston Edison Co.* (Pilgrim Nuclear Generating Station, Unit 2), ALAB-269, NRCI-75/4R 411 (April 28, 1975). As a consequence, one who has been permitted to intervene may not invoke that Section to obtain interlocutory review of an order which does no more than to exclude from consideration in the proceeding certain of the issues which he has sought to raise. *Ibid.*

---

[2] While not pressing the point, the State suggests that it is not certain whether the oral ruling was "legally sufficient to trigger the filing requirements of" Section 2.714a. The suggestion appears to be based upon the State's belief that, by analogy to Sections 2.751a(d) and 2.752(c) of the Rules of Practice, 10 CFR 2.751a(d) and 2.752(c), the Board was obligated to issue a written order encompassing the ruling. See also 10 CFR 2.730(e).

[3] The assigned "good cause" was that the counsel who prepared the appellate papers was not made immediately aware of the Licensing Board's ruling. It might be noted, however, that other counsel for the State was present when the ruling was announced by the Chairman of the Licensing Board.

[4] See Section 2.730(f) of the Rules of Practice, 10 CFR 2.730(f).

These holdings apply here. We have seen that the State was granted intervention—albeit (in accordance with its wishes) as an "interested State" participating under Section 2.715(c) rather than as a party under Section 2.714(a). The ruling of the Licensing Board under present attack did nothing to affect the State's status in the proceeding. To the contrary, the State was left entirely free to participate to the fullest extent not only on the remanded environmental (*i.e.*, fuel utilization efficiency) issue which it had previously and successfully raised but, as well, on each and every health and safety issue which the Licensing Board determined to be properly before it for consideration and decision. The sole practical consequence of the ruling was that the scope of the health and safety hearing would not be further broadened to encompass the additional issues which the State sought to inject into it.[5]

In the totality of these circumstances, the situation before us differs in no material respect from that in any of the earlier cases in which intervenors attempted under the aegis of Section 2.714a to have us examine on an interlocutory basis Licensing Board rulings addressed to what issues would or would not be entertained by the Board. The complaint of those intervenors was precisely the same as that of the State in the proceeding at bar: namely that, although allowed to intervene, they were not allowed to introduce some of the issues which they thought warranted Licensing Board consideration. Our uniform response to them was that, even if meritorious, their complaint was premature; *i.e.*, its assertion to us must await the rendition of an initial decison. The identical response is called for in this instance.[6]

---

[5] Even had the effect of the ruling been (as it plainly was not) to preclude participation by the State on *any* health and safety issues, we still could not have accepted the State's claim that the ruling was the "equivalent of denying a petition to intervene submitted by a private person." That claim appears to rest upon the consideration that, in line with what has now become common practice, the Licensing Board elected to conduct "two distinct hearings, one concerned with environmental issues and site suitability and the other with radiological health and safety matters." But, irrespective of the number of separate hearings, the fact nonetheless remains that this is a single licensing proceeding in which the State has affirmatively participated—to the extent of introducing its own evidence and taking an appeal from adverse Licensing Board findings—on at least some of the matters being litigated. Thus, the Licensing Board's action cannot be analogized to the denial of an intervention petition of a private person. Such a denial results, of course, in the petitioner being barred from taking any part in the proceeding other than the making of a limited appearance.

[6] As should be manifest from the foregoing, we reject the applicant's argument that Section 2.714a may not be invoked here for the additional reason that "it relates only to petitions for leave to intervene under Section 2.714." Although Section 2.714a is not wholly clear on the point, we think the only sensible interpretation of it to be that an immediate appeal may be taken in the case of the outright denial of *either* a Section 2.714 or a Section 2.715(c) petition.

For the foregoing reasons, the appeal is *dismissed.* In taking this action, we intimate no views respecting the correctness of the ruling of the Licensing Board. *Pilgrim 2,* ALAB-269, *supra,* NRCI-75/4R at 413.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-330

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Richard S. Salzman

In the Matter of

Docket No. 50-537

PROJECT MANAGEMENT CORPORATION
TENNESSEE VALLEY AUTHORITY

(Clinch River Breeder Reactor Plant)

The Appeal Board denies the petitions of the NRC staff and the applicants for reconsideration of ALAB-326, in which the Appeal Board denied directed certification of a portion of the Licensing Board's April 6, 1976 special prehearing conference order admitting certain contentions of an intervenor. The Appeal Board also denies the applicants' petition for directed certification of the question of the Licensing Board's admission of certain other of the intervenor's contentions.

RULES OF PRACTICE: CERTIFICATION

An appeal board may decline to direct certification of interlocutory rulings admitting or rejecting specific contentions where such a ruling is not clearly on a collision course with governing legal principles.

Messrs. George L. Edgar, O. S. Hiestand, Jr., J. A. Williamson, Jr., and K. P. Gallen, Washington, D.C., for the applicants, Project Management Corporation, *et al.*

Mr. Anthony Z. Roisman, Washington, D.C., for the intervenors, Natural Resources Defense Council, *et al.*

Mr. Geoffrey P. Gitner for the Nuclear Regulatory Commission staff.

## MEMORANDUM AND ORDER

May 12, 1976

In ALAB-326, NRCI-76/4 406 (April 19, 1976) we summarily denied the

petition of the NRC staff for a directed certification of so much of the Licensing Board's April 6, 1976 special prehearing conference memorandum and order as admitted into this proceeding Contentions 10 and 11 of the intervenor Natural Resources Defense Council (NRDC). LBP-76-14, NRCI-76/4 430. The staff now asks for reconsideration of that denial. The applicants join in that request and also call upon us to direct the certification of the question whether the Licensing Board erroneously admitted (in the same memorandum and order) NRDC Contentions 7 and 8. Invited to respond to these latest filings, NRDC urges that no question should be certified and the staff opposes certification with respect to Contentions 7 and 8.

I

As noted in ALAB-326, Contentions 10 and 11 are addressed to the adequacy of the Final Environmental Statement which has been prepared by the Energy Research and Development Administration with respect to the liquid metal fast breeder reactor program (ERDA-1535). Before the Board below, the staff and the applicants urged that these contentions went beyond the scope of this licensing proceeding convened to decide whether a construction permit should be authorized for the Clinch River facility. The Board disagreed. Relying, *inter alia*, upon the recent decision of the Court of Appeals for the District of Columbia Circuit in *Henry* v. *F.P.C.*, 513 F. 2d 395 (1975), it determined that "the issuance of its programmatic FES by ERDA does not alone oust this Licensing Board or NRC from *all* jurisdiction to consider or analyze its contents in this proceeding." NRCI-76/4 at 440 (emphasis supplied). The Board went on to observe that

> It would be neither reasonable nor practicable to require the Staff or this Board to evaluate in detail the totality of material generated by ERDA during many months or years of work in preparing its LMFBR impact statement. However, we believe that *a limited review* is required under the NRC's responsibilities in accordance with NEPA. An independent judgment should be exercised as to the rational basis and support for the programmatic statement to determine whether and to what extent NRC should rely on the overall environmental analysis issued by ERDA. Since this question arises in the context of the pleadings, no more precise delineation of the scope of independent review can be made at this time.

*Id.* at 441 (emphasis supplied; footnote omitted).

The Rules of Practice of the Commission barred an interlocutory appeal of this ruling. 10 CFR 2.730(f); *Gulf States Utilities Co.* (River Bend Station, Units 1 and 2), ALAB-329, NRCI-76/5 607 (May 10, 1976); *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-168, 6 AEC 1155 (1973);

*Potomac Electric Power Co.* (Douglas Point Nuclear Generating Station, Units 1 and 2), ALAB-176, 7 AEC 151 (1974); *Philadelphia Electric Co.* (Fulton Generating Station, Units 1 and 2), ALAB-206, 7 AEC 841 (1974); *Boston Edison Co.* (Pilgrim Nuclear Generating Station, Unit 2), ALAB-269, NRCI-75/4R 411 (April 28, 1975). The staff and the applicants nonetheless might have asked the Licensing Board to reconsider the ruling or to refer it to this Board. 10 CFR 2.751a(d), 2.730(f). But they elected not to do so. Rather, the staff came directly to us with its petition for a directed certification under 10 CFR 2.718(i).

A. In denying that petition, we noted in ALAB-326 our reluctance to use the certification authority conferred by Section 2.718(i) to step into a licensing proceeding at the threshold to decide controversies over whether particular issues should or should not be considered in the proceeding. Although not going so far as to rule out entirely the availability of relief of that sort, we endeavored to make clear that petitions such as the one at bar would have little chance of success unless there appeared to be a high probability—and not just some possibility—that serious error had been committed below. In this instance, a close reading of the Licensing Board's memorandum and order, as well as of the judicial decisions which were cited therein, left us unconvinced that the Board's admission of Contentions 10 and 11 was plainly wrong.

Specifically, we thought the ruling below to derive at least some support from what was said in *Henry* v. *F.P.C.*, *supra*, 513 F. 2d at 405-07. That case involved several applications for FPC certificates of public convenience and necessity in connection with projects concerning synthetic gas produced from coal. One of the applications sought an authorization to construct and operate tap and valve facilities for the introduction of such gas into a mainline of a natural gas company, where it would be commingled with gas derived from wells. An intervenor before the agency argued that, in decideing whether to authorize such construction, the FPC was required by the National Environmental Policy Act to consider the attendant environmental consequences. But the FPC thought the issue of its responsibility under NEPA to be premature because "its role under that Act is limited in this case to the evaluation of the incremental impact on the environment of the * * * tap and valve facility, even if the coal gasification project of which that facility is an essential part constitutes a major federal action having a significant effect on the environment." Although accepting the conclusion of prematurity, the District of Columbia Circuit disagreed with the reasoning underlying it. As the court saw it, the FPC had taken "too narrow a view of [its] responsibilities under NEPA":

> The mobilization of the gasification complex requires the approval of several federal agencies in addition to the FPC—the Bureau of Reclamation of the Department of the Interior controls the relevant water rights; the Army Corps of Engineers and the Secretary of the Army must approve any structures that will divert river water; the U.S. Geological Survey has

authority over the mining development plan; and the Area Director of the Bureau of Indian Affairs must pass on any coal and business leases negotiated with the Navajo Tribe. The Bureau of Reclamation has been designated as "lead agency" to prepare a draft environmental impact statement for the entire gasification project.

NEPA requires an integrated view of the environmental damage what may be caused by a situation, broadly considered, and its purpose is not to be frustrated by an approach that would defeat a comprehensive and integrated consideration by reason of the fact that particular officers and agencies have particular occasions for and limits on their exercise of jurisdiction. See Natural Resources Defense Council (NRDC) v. Morton, 148 U.S. App. D.C. 5, 458 F. 2d 827 (1972) (holding that NEPA requires that the environmental impact statement discuss all alternatives reasonably available, including those beyond the jurisdiction of the agency to adopt); 40 C.F.R. §1500.6(d) (1974) (Council on Environmental Quality interpretive guidelines requiring impact statements to consider secondary, indirect, and cumulative effects of federal actions).

As NRDC v. Morton, supra, points out, this integration of environmental consideration is consistent with a "lead agency" concept under which one agency, normally that which is first in time, will have responsibility for preparing the comprehensive impact statement. In the case at bar, that agency is the Bureau of Reclamation. Its environmental impact statement will have to provide an overview of total environmental damage in order to comply with NEPA.

If we understand the FPC's reasoning aright, it is of the view that while the lead agency will prepare a comprehensive environmental impact statement under NEPA, when the FPC comes to consider the §7 application for tap and valve facilities, it need only consider part of the environmental damage (the incremental damage from the tap and valve facilities) and hence need only consider part of the impact statement. That approach, in this court's view, is inconsistent with the FPC's obligation, both under NEPA and under the Natural Gas Act (under the CATCO and Transcontinental opinions).

The FPC's concern in, say, a §7 proceeding to certify the critical interconnection facilties, will encompass an evaluation of all the elements of the gasification project. The burden of environmental damage from that overall project is an important part of this total evaluation.

*The reason why the issue raised by EDF is premature at the present time is simply that the FPC is not necessarily required to prepare a full environ-*

> *mental impact statement for the gasification project. It can rely on the statement prepared by the lead agency. What is required is that the FPC, in deciding whether to grant, deny or condition certificates of public convenience and necessity for admittedly jurisdictional facilities, take into account the environmental costs of the gasification projects as a whole. It may do this by accepting, rejecting, or modifying the analysis of the lead agency.* There may be matters as to which it has particular expertise, and corresponding reactions of analysis. But all that is timely at present is the issue of the preparationof an environmental impact statement, and since this is not necessarily the obligation of FPC, we do not remand Opinion No. 663. There may be complaint, after the environmental impact statement is prepared, that the FPC has unlawfully ignored or disregarded environmental matters in its §7 ruling. That will be subject to review when the particular certification orders are entered.

513 F. 2d at 406-07 (emphasis supplied; footnotes omitted).

Neither of the petitions for reconsideration now before us discusses *Henry*, let alone attempts to demonstrate that it is inapposite here. Both the staff and the applicants point, however, to the decision of the same court in *Scientists' Institute for Public Information, Inc. [SIPI]* v. *AEC*, 481 F. 2d 1079, 1087-88, 1092-93 (1973). We find nothing in *SIPI* which might serve to undercut the Licensing Board's reliance upon *Henry*. For one thing, *Henry* is the more recent of the two decisions. More importantly, as NRDC correctly observes, *SIPI* was concerned with individual and programmatic environmental impact statements being prepared by the same agency. That was not the case in *Henry*. Nor is it the case here.

In short, we have been offered absolutely nothing by the staff or the applicants which might induce us to retreat from the observation in ALAB-326 that the Licensing Board does not appear to be " 'steering what is bound to be a collision course' with governing legal principles." NRCI-76/4 at 407. To the contrary, if anything the failure of those parties to come to grips with *Henry* serves to reinforce the warrant for that appraisal of the ruling below.[1]

---

[1] In its petition for reconsideration, the staff takes exception to the "collision course" standard applied in ALAB-326. It urges that "[i]n view of the great practical importance of resolving the legal issue now, it should be sufficient at this point to demonstrate that there are substantial legal questions as to the correctness of [the Licensing Board's] decision." Leaving aside whether the alleged "great practical importance" is that apparent (see pp. 618-619, *infra*), an adoption of the staff's suggested standard for interlocutory review would likely not change the result here. It is doubtful at best that what the staff and the applicants have put before us in their papers establishes even that we are being asked to resolve a "substantial" legal question.

Be that as it may, we adhere to the "collision course" standard *insofar as interlocutory*

*(continued on next page)*

B. There is still another and independent reason why we are not disposed to reconsider ALAB-326. In its petition for certification, the staff claimed that the admission of Contentions 10 and 11 would have dire consequences. We were told that the Licensing Board has paved the way for the litigation of "long-range options for meeting national energy needs, national projected electrical growth rates, extent of national or world uranium supplies, projected nuclear power growth, waste disposal and fuel cycle impacts of a national breeder program, the possible consequences of accidents at commercial LMFBR sites, and many other issues of similar breadth and complexity." This in turn assertedly has occasioned "the near certainty of a greatly expanded hearing." Further, it will become "necessary to divert [staff members] from other projects for significant periods of time" as well as "to incur the expense of hiring appropriate consultants" in those substantive areas in which the staff "presently does not have members possessing the required technical or educational qualifications." Even beyond that, the staff insisted, the ruling below has invalidated its Clinch River Final Environmental Statement scheduled for publication later this month and placed it under a duty to "prepare and recirculate an expanded environmental statement." According to the staff, this will require an additional six to nine months and will produce a corresponding delay in the commencement of the evidentiary hearing.

In ALAB-326, we referred in passing to the possibility that the staff had read too much into the Licensing Board's ruling with regard to both "the breadth of the permissible inquiry under Contentions 10 and 11 and what the responsibilities of the staff may be in connection therewith."[2] NRCI-76/4 at 407, fn. 2. That reference was intended as a suggestion to the staff that it might be advisable to inquire further of the Licensing Board respecting the effect of its ruling on the staff's immediate obligations. True, the Board below had stated that, at the pleading stage, it could not offer a more "precise delineation" of the scope of the "limited review" of the ERDA programmatic FES which it thought was within its jurisdiction. Nonetheless, it seemed to us most unlikely that the Board would have declined to provide upon request at least some indication as to whether the serious concerns ventilated in the staff's certification petition were well-founded. We have been given no basis for believing that its members

---

*(continued from previous page)*

*rulings admitting or rejecting specific contentions are concerned.* To do otherwise might well open the floodgates to directed certification petitions challenging such rulings. Not infrequently, the question whether a certain contention should or should not be admitted is one on which reasonable minds might differ. And, as observed in ALAB-326, whenever a licensing board decides to allow a contention of relatively wide scope, additional hearing time and burdens may ensue. Had the Commission thought considerations of that nature to be sufficient warrant for immediate appellate review of decisions on contentions, it doubtless would have cast the relevant Rules of Practice in quite different terms.

[2] As is reflected by the portion quoted earlier in this opinion, the ruling was quite narrowly drawn.

are unreasonable or that they are any less sensitive than the staff (or for that matter ourselves) to the desirability of avoiding unnecessary delay or expense.

The staff now concedes that it may have "overreacted" to the ruling below—a concession obviously prompted by its present assertion (following its further study of that ruling) that, notwithstanding what it had previously said in its certification petition, it may suffice to "circulate a supplement to the FES" in lieu of "prepar[ing] and recircul[ating] an expanded environmental statement." What the staff does not explain, however, is the justification for its steadfast refusal to ask the Licensing Board for clarification. In this connection, as previously noted it might have done so under 10 CFR 2.751a(d) even before encumbering our docket with its certification petition. Although we do not subscribe to NRDC's belief that the Rules of Practice mandate that a party dissatisfied with a special prehearing conference order resort to Section 2.751a(d) before seeking a directed certification, in the circumstances of this case it seems manifest that the staff and the applicants appropriately should have followed that course. Section 2.751a(d) explicitly provides that, if objections to a special prehearing conference order are filed within the period prescribed in the Section, the Licensing Board may "revise the order in the light" thereof or certify to this Board "such matters raised in the objections as it deems appropriate."

In any event, despite its inexplicable unwillingness to look to the Licensing Board for some measure of relief before coming to us not once but twice in search of the extraordinary remedy of directed certification, the staff (and the applicants) may nonetheless shortly obtain a clearer indication as to the reach of the Licensing Board's admission of Contentions 10 and 11. Relying in significant measure on the sweeping statements made in the staff's certification petition as to the likely effect of the Board's ruling, NRDC recently filed a motion for summary disposition on the issue of the legal sufficiency of the Draft Environmental Statement, and thus the upcoming Final Environmental Statement, for the Clinch River facility. In acting upon this motion following its receipt of responsive papers, the Board below presumably will shed further light upon whether the staff—and now the applicants as well—have misapprehended the effect of the April 6 order.

## II

Still less reason exists for reviewing on directed certification the Licensing Board's admission of NRDC Contentions 7 and 8. As revised, those contentions do not, as the applicants would have it, constitute an impermissible attack upon Commission regulations. Rather, as the Board below stressed, in their altered form both contentions go to the assessment of the radiological impact of the facility in normal operation assuming a compliance with all regulatory requirements. NRCI-76/4 at 435-436. In the circumstances, the applicants' reliance

upon *Citizens for Safe Power* v. *NRC*, 524 F. 2d 1291 (D.C. Cir. 1975), is totally misplaced.

---

For the reasons assigned, the petitions for reconsideration of ALAB-326 and for directed certification of the question of the admission of Contentions 7 and 8 are hereby *denied.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-17

ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Chairman
Dr. Frank F. Hooper
Gustave A. Linenberger

In the Matter of

DUQUESNE LIGHT COMPANY
OHIO EDISON COMPANY
PENNSYLVANIA POWER COMPANY
THE CLEVELAND ELECTRIC
ILLUMINATING COMPANY
THE TOLEDO EDISON COMPANY

(Perry Nuclear Power Plant
Units 1 and 2)

Docket Nos. 50-440
50-441

May 10, 1976

Upon motion by applicants requesting an amendment to their expanded limited work authorization (LWA-2), the Licensing Board issues a supplemental partial initial decision, making determinations of fact and law requisite for issuance of the amendment.

# SUPPLEMENTAL PARTIAL INITIAL DECISION
## (Authorizing Issuance of a Limited Work Authorization Amendment)

### APPEARANCES

**Gerald Charnoff, Esq.**, and **Ernest Blake, Esq.**, on behalf of applicant, Cleveland Electric Illuminating Company, et al.

**Evelyn Steffins**, on behalf of the Intervenor Coalition for Safe Electric Power.

**Gregory Lewis, Esq.**, on behalf of the U.S. Nuclear Regulatory Commission Staff.

### I. INTRODUCTION AND BACKGROUND

1. The Licensing Board's Supplemental Partial Initial Decision and Order of

December 31, 1975, *inter alia,* authorized, pursuant to 10 CFR Part 50.10(e)(3), the issuance of a Limited Work Authorization (LWA-2) for the performance of work on certain safety-related structures, said work being described in Appendix B of that Decision, as amended by the deletion of items C.1.b. through C.1.e.[1] (For convenience, said Appendix B is reproduced herein, also as Appendix B.) Such authorization was granted by the Nuclear Regulatory Commission on December 31, 1975. In March 1976, the Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, the Cleveland Electric and Illuminating Company, and the Toledo Edison Company (Applicants) filed a request for an amendment to their LWA-2 to authorize the performance of certain portions of the deleted workscope, for which an evidentiary hearing was held on April 13, 1976.[2] The work sought to be performed is described in Appendix A hereto and is the subject of consideration of this Supplemental Decision. Prior background events are described in detail in this Board's earlier Decision (see fn 1) and will not be repeated here.

2. The hearing on the proposed amendment to Applicants LWA-2 was first set down at the stipulation of parties for April 1, 1976, by Licensing Board's Order dated March 25, 1976.

3. It was then rescheduled to April 9, 1976 (see Board's Order dated March 31, 1976) at the request of the Staff and upon the stipulation of the parties that Staff's written testimony be in the hands of the Intervenor Coalition for Safe Electric Power (Intervenor) by April 5, 1976. At a conference call held on April 6, 1976, Staff requested still another rescheduling of the hearing to April 13, 1976. At said conference call the Intervenor objected to the hearing on the following grounds:

a. That Applicants made no showing that the work requested to be authorized was on a critical path,
b. That the hearing should also include the Need for Power issue,
c. That present construction is in violation of state laws, specifically Section 4905.48 of the Ohio Revised Code, and
d. That the Intervenor was not furnished with a log of Staff's telephone calls with the Applicants.

These objections were overruled and the hearing was set down for April 13, 1976, as affirmed by Board's Order dated April 8, 1976.

4. The scope of additional work requested by Applicants is concerned solely with construction of certain portions of the reactor building foundation mat. Essentially, the work activities for which authorization is now sought consists of

---

[1] Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, Cleveland Electric Illuminating Company, and Toledo Edison Company (Perry Nuclear Power Plant, Units 1 and 2), LBP 75-73, NRCI-75/12, p. 946.

[2] 41 Fed. Reg. 1537.

the placement, in the reactor building excavation, of reinforcing steel and steel embedments for anchoring the reactor pedestal, the drywell wall, the containment vessel and columns; authorization is not being sought at this time to place concrete around the rebar and embedments (see Appendix A). At the above-mentioned hearing, held at the Federal Building in Cleveland, Ohio, the Applicants and the NRC Staff presented testimony, previously distributed to the Licensing Board and other parties, as follows:

Applicants' Supplemental Testimony on Reactor Building Base Mat Rebar and Embedments, *inserted into transcript following Tr. 2885* (cited throughout this Amendment Decision as "Applicants' Amendment Testimony").

Supplemental Testimony of the NRC Staff on the Amended LWA-2 Request for Work Activities Related to the Construction of the Reactor Building by M. D. Lynch, *inserted into the transcript following Tr. 2943* (cited throughout this Amendment Decision as "Lynch Amendment Testimony").

Supplemental Testimony of the NRC Staff by William Regan, *inserted into transcript following Tr. 2939* (cited throughout this Amendment Decision as "Regan Amendment Testimony").

Applicants introduced into the record as exhibits detailed drawings of the rebar and embedment placements.[3] No testimony was presented nor were exhibits introduced by Intervenor Coalition for Safe Electric Power. The Ohio Power Siting Commission did not participate in this segment of the hearing.

## II. FINDINGS OF FACT

5. The Reactor Building foundation rebar and the embedments in the foundation are designed to withstand three classes of loads—environmental loads, loads other than suppression pool dynamic loads, and suppression pool dynamic loads. The environmental loads considered include wind and tornado loads, groundwater pressures, lateral soil pressures, seismic loads, exterior missiles, and a gas pipe-line or a gas storage explosion. The design of the reactor building base mat also accounts for loads of the second type: i.e., for the weight of structures and permanent equipment (dead load), from moveable temporary equipment and impacts (live loads), from normal operating pressure, from normal operating temperature, from penetration and piping, from testing of the

[3] Applicants' Exhibits 18A, 18B, and 19, described and received into evidence at Tr. 2894-2896.

containment vessel and drywell, and from a postulated high energy pipe break.[4]

6. It is the third type of loads considered in the adequacy of the reactor building foundation design–suppression pool dynamic loads–which has been the primary generic concern of the NRC Staff. Both the Applicants and the NRC Staff directed the majority of their testimony to these types of loads, and the adequacy of Applicants' design and their commitments to ensure that the Perry Units 1 and 2 reactor building foundation can withstand such loads.[5]

7. The Staff's present requirements for the suppression pool dynamic loads are based on the adequacy of the suppression pool to withstand a postulated loss-of-coolant accident (LOCA) and a simultaneous relief valve operation generally associated with certain plant transient conditions. The Staff requirements for suppression pool loads resulting from a postulated LOCA are based on its review and evaluation of tests performed by GE upon a large scale Mark III type containment. These design loads are supported by test results and include an appropriate design margin. The Staff requirements for the safety/relief valve loads are based on a review and evaluation of quencher test results and reflect the most severe operational transient of the nuclear steam supply system associated with multiple actuations of the same safety/relief valve. The safety/relief valve loads required by the Staff are a conservative extrapolation of the loads that were actually measured in tests.[6]

8. Pending final resolution by the NRC Staff of its generic concerns with suppression pool dynamic loads, the Staff has established bounding conservative criteria for the present Applicants. Based upon analyses to date of test results, these criteria may be conservative and may be relaxed when the review of the test programs is complete.[7] In recognition of the Perry 1 and 2 schedules, however, Applicants have accepted as design criteria the Staff's conservative requirements for the scope of work described in Appendix A hereto.[8] Applicants have initiated a reanalysis of their design of the rebar and the embedments for the containment vessel, drywell wall, reactor pedestal, and columns to determine their compliance with the bounding criteria imposed by the Staff. The reanalysis should be complete in six to eight weeks from the date of the instant hearing. The results to date indicate that the present design will meet the bounding criteria.[9] Both Applicants and the Staff anticipate that the reanalysis when completed may demonstrate that the current rebar and embedment design is adequate to meet the loads to which Applicants have committed.[10] However,

[4] Applicants' Amendment Testimony, pp. 3-10.
[5] See generally Applicants' Amendment Testimony; Lynch Amendment Testimony.
[6] Lynch Amendment Testimony, pp. 13-15; Tr. 2945.
[7] Tr. 2887, 2923-24, 2926-27, 2945-46, 2959-61.
[8] Applicants' Amendment Testimony, pp. 16-17.
[9] Tr. 2908, 2915, 2917-18.
[10] Lynch Amendment Testimony, p. 16; Tr. 2908, 2915, 2917-18.

even if some augmentation of the present scope of work (strengthening of the rebar and embedment placements) were shown to be necessary, such augmentation can be accomplished readily at a cost Applicants expect would be less than $300,000 for the two units. In addition, any augmentation, if necessary, would likely only involve the upper mat of rebar whose placement is not expected to occur until after Applicants' present reanalyses have been completed.[11]

9. As a result of the Applicants' commitment to the Staff's conservative requirements, and based upon our review of the evidence presented, the Board finds that there are no outstanding safety issues with respect to the scope of work that is the subject of Applicants' amendment request.[12]

10. The NRC Staff has evaluated the effect on the previously-drawn cost-benefit balance due to Applicants' request for amendment. The Staff concluded that the maximum additional cost required by the imposition on the Staff's conservative bounding criteria for the rebar and embedments is negligible when compared to the estimated total cost of the facility, and causes no significant change in the NEPA cost-benefit conclusion previously advanced by the Staff.[13] The Board has reviewed these conclusions and the supporting evidence and finds itself in concurrence therewith.

## III. CONCLUSIONS OF LAW

11. The Board has reviewed the entire record of this proceeding, including all of the Findings of Fact and Conclusions of Law submitted by the parties. All of the proposed Findings of Fact and Conclusions of Law submitted by the parties which are not incorporated directly or inferentially in this Supplemental Partial Initial Decision are herewith rejected as being unsupported in law or fact, or as being unnecessary in the rendering of this Partial Initial Decision.

12. On the basis of the record in this proceeding, including particularly the evidentiary hearing of April 13, 1976, and the foregoing Findings of Fact, the Licensing Board concludes that there are no unresolved safety issues relating to the activities described in Appendix A hereto which would constitute good cause for withholding authorization to conduct such activities, and that the cost of such activities does not materially affect the results of the cost-benefit balance previously stated in this proceeding.

## IV. ORDER

13. WHEREFORE, in accordance with the Atomic Energy Act of 1954, as

[11] Tr. 2890, 2908, 2911, 2916, 2918-19, 2930-31, 2971.

[12] Applicants' Amendment Testimony, p. 16; Lynch Amendment Testimony, pp. 16-17; Tr. 2945.

[13] Regan Amendment Testimony, Tr. 2890, 2940; FES at §10.4.

amended, and the Rules of Practice of the Commission, and based on the findings and conclusions set forth herein, IT IS ORDERED that the Director of Nuclear Reactor Regulation is authorized to amend Applicants' Limited Work Authorizations to permit the conduct of the activities described in Appendix A hereto in addition to those activities previously authorized by the Director.

14. IT IS FURTHER ORDERED, in Accordance with 10 CFR §§2.760, 2.762, 2.764, 2.785, and 2.786 that this Decision shall become effective immediately and shall constitute, with respect to the matters covered herein, the final Decision of the Commission on June 9, 1976, which is thirty (30) days after the issuance of this Decision, subject to any review pursuant to the above-cited Rules of Practice. Exceptions to this Decision may be filed within seven (7) days after service of this Amendment Decision and a brief in support of such exceptions may be filed by any party within fifteen (15) days (twenty [20] days in the case of the Staff) thereafter. Within fifteen (15) days of the filing and service of the brief of appellant (20 days in the case of the Staff), any other party may file a brief in support of, or in opposition to, such exceptions.

IT IS SO ORDERED.

ATOMIC SAFETY AND
LICENSING BOARD

Frank F. Hooper, Member

Gustave A. Linenberger, Member

John M. Frysiak, Chairman

Issued this 10th day of May 1976
At Bethesda, Maryland.

[Appendixes A and B and Transcript corrections are omitted from this publication but are available at the NRC's Public Document Room, Washington, D.C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-18

ATOMIC SAFETY AND LICENSING BOARD

Frederic J. Coufal, Chairman
Dr. Walter H. Jordan
Dr. Donald P. deSylva

In the Matter of

DUKE POWER COMPANY

(Cherokee Nuclear Station,
Units 1, 2 and 3)

Docket Nos. 50-491
50-492
50-493

May 21, 1976

Upon application for construction permits for Cherokee Nuclear Station, Units 1, 2 and 3, the Licensing Board issues a partial initial decision on environmental and site suitability aspects of the facility, making findings of law and fact requisite for the issuance of a limited work authorization (LWA) and imposing certain conditions.

## APPEARANCES

Michael McGarry and Troy B. Conner, Esqs., Conner, Hadlock and Knotts, 1747 Pennsylvania Avenue, N. W., Washington, D. C.; and William L. Porter, Esq., Associate General Counsel; Duke Power Company, 422 S. Church Street, Charlotte, N. C. 28242 For the Applicant, Duke Power Company.

Kerry F. Winberry, Esq., Legal Office, 2600 Bull Street, Columbia, S. C. 29201 For the State of South Carolina

Charles A. Barth, Esq., Nuclear Regulatory Commission, Bethesda, Maryland For the NRC Regulatory Staff

# PARTIAL INITIAL DECISION AS TO ENVIRONMENTAL AND SITE SUITABILITY ISSUES

## I. PRELIMINARY BACKGROUND STATEMENT

1. This is a Partial Initial Decision dealing with the environmental aspects of the proposed Cherokee Nuclear Station, and with the suitability of the Cherokee

site for the location of nuclear power reactors of the general size and type proposed.

2. On May 24, 1974, pursuant to Section 103 of the Atomic Energy Act of 1954, as amended, (42 U.S.C. §2011 *et seq.*) the Atomic Energy Commission[1] (Commission) docketed the application and Preliminary Safety Analysis Report (PSAR) and on July 8, 1974, docketed the Environmental Report (ER) of Duke Power Company (Applicant) to construct and operate three-pressurized water reactors at a site designated as Cherokee Nuclear Station, and three at a site designated as Perkins Nuclear Station.

3. Notice of Receipt of Application was published in the Federal Register on July 26, 1974 (39 FR 27339), August 2, 1974 (39 FR 27934), and August 9, 1974 (39 FR 28662).

4. The Cherokee site is located in the eastern portion of Cherokee County, South Carolina, on the west bank of the Broad River about 6 miles southeast of Blacksburg, South Carolina, and 21 miles northeast of Spartanburg, South Carolina.

5. The Perkins site is located in the southeast portion of Davie County, North Carolina on the northwest bank of the Yadkin River about 11 miles west of Lexington, North Carolina, and about 17 miles southeast of Winston Salem, North Carolina.

6. The application utilizes two approaches of the Commission's Standardization Policy for nuclear power plants–the "reference system" and "duplicate plant" concept (39 FR 13668, April 16, 1974). All six units will utilize a nuclear steam supply system designed by Combustion Engineering Incorporated. Each unit is designed for a thermal output of 3817 megawatts and a net electrical output of 1280 megawatts. (Final Environmental Statement §1.1 [FES])

7. On July 19, 1974, the Commission published a Notice of Hearing on Application for Construction Permits (39 FR 26470) with respect to the application filed by the Applicant on May 24, 1974.

8. The Notice of Hearing set forth the requirements pursuant to the Atomic Energy Act and the National Environmental Policy Act of 1969, as amended (42 U.S.C. §4321 *et seq.*), (NEPA), to be met prior to the issuance of construction permits. The Notice also provided that any person whose interest might be affected by the proceeding could file a petition for leave to intervene in accordance with the requirements of 10 CFR §2.714 not later than August 19, 1974,

[1] In accordance with the Energy Reorganization Act of 1974, 88 Stat. 1233, the Atomic Energy Commission has been reorganized and its regulatory responsibilities have been assumed by the Nuclear Regulatory Commission as of January 19, 1975. References herein to the Commission shall be interpreted to mean Atomic Energy Commission for events dated or occurring on or before January 18, 1975, and the Nuclear Regulatory Commission for events dated or occurring on or after January 19, 1975.

and also further notified interested persons that they may file requests for limited appearances pursuant to the provisions of 10 CFR §2.715. Also the Notice of Hearing appointed an Atomic Safety and Licensing Board ("Board") to conduct the proceeding, naming Dr. Donald P. deSylva, Dr. Walter H. Jordan and Mr. Jerome Garfinkel, Chairman and established a local public document room at the Cherokee County Library, Gaffney, South Carolina.

9. The Licensing Board was reconstituted on July 26, 1974, pursuant to 10 CFR §2.721 by the appointment of Mr. Frederic J. Coufal as Chairman in place of Mr. Jerome Garfinkel (39 FR 27822). No petition to intervene pursuant to 10 CFR §2.714 has been filed with the Commission.

10. On April 1, 1975, the Commission issued its Draft Environmental Statement (DES) for the Cherokee site, notice of its availability being published in the Federal Register (40 FR 15138).

11. At a prehearing conference held on June 12, 1975, in Gaffney, South Carolina, the State of South Carolina appeared by counsel and requested to be admitted as an interested state pursuant to 10 CFR §2.715. The Board admitted the State (Tr. p. 5) to participate in the proceeding. The Applicant informed the Board that Unit 1 was scheduled for commercial operation on January 1, 1984 (Tr. p. 54). The Board informed the parties that it would specially address need-for-power at the evidentiary hearings (Tr. p. 18 and 20) in addition to other matters. After the prehearing conference adjourned the members of the Board and counsel for the parties and the State of South Carolina visited the site.

12. The record in this proceeding consists of the following:

(a) the Notice of Hearing published in the Federal Register on July 19, 1974 (39 FR 26470) and all subsequent public notices published in the Federal Register which pertain to this proceeding;

(b) the transcript of the prehearing conference in Gaffney, South Carolina held on June 12, 1975;

(c) the transcript of the evidentiary hearing held on November 5 and 6, 1975 in Gaffney, South Carolina;

(d) the Applicant's Application, Environmental Report, and Preliminary Safety Analysis Report, all as amended to November 6, 1975;

(e) the Staff's Final Environmental Statement and Site Suitability Report (SSR);

(f) the pleadings filed herein; and

(g) all exhibits received into evidence which are listed in Appendix A hereto.

13. This Board will issue its Initial Decision on the radiological health and safety issues, and its decision on issuance of construction permits after public hearings on the radiological health and safety aspects of the application have been held.

14. Pursuant to 10 CFR §51.52, in the absence of an admitted intervenor and contentions in issue, the Board will:

(a) determine whether the requirements of Section 102(2) (A), (C), and (D) of NEPA and 10 CFR Part 51 have been complied with in the proceeding;

(b) independently consider the final balance among conflicting factors contained in the record of the proceeding for the permit with a view to determining the appropriate action to be taken;

(c) determine after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering available alternatives, whether the construction permits should be issued, denied, or appropriately conditioned to protect environmental values; and

(d) determine whether the NEPA review conducted by the Commission's Regulatory Staff has been adequate.

15. In addition, 10 CFR §50.10(e)(2) requires the Board to determine, as a pre-requisite to the issuance of authorization to conduct pre-construction permit activities (LWA), that "based upon the available information and review to date, there is reasonable assurance that the proposed site is a suitable location for a nulcear power reactor of the general size and type proposed from the standpoint of radiological health and safety considerations under the Act and rules and regulations promulgated by the Commission pursuant thereto."

## ADEQUACY OF STAFF'S NEPA REVIEW

16. The Applicant submitted its ER, and four amendments (App. Ex. 1), for the Cherokee Station (Tr. p. 70).

17. The Staff thereafter issued a Draft Environmental Statement (DES) in April 1975. Notice of the availability of the DES was published in the Federal Register (40 FR 15138). It was made available to thirteen Federal agencies, the State of South Carolina and the Cherokee County, South Carolina Board of Commissioners (FES ii). Comments received are reproduced as Appendix A in the FES and were considered by the Staff in preparation of the FES (FES §11). The Staff issued its Final Environmental Statement for the Cherokee project in October 1975. Notice of Availability of the FES was published in the Federal Register (40 FR 46363).

18. The FES discloses and assesses in detail the environmental impacts of the construction and operation of the Cherokee facilities. It contains a detailed description of the site and the plants, with a discussion of the impact of the site preparation and plant and transmission line construction. In addition, the FES deals with the environmental effects of accidents. The FES contains a detailed evaluation of the proposed action, including consideration of the need for power, the adverse environmental effects which cannot be avoided, the relation-

ship between local short-term uses of man's environmental and maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitments of resources.

It further contains a review of alternative energy sources and sites, of plant design alternatives, and finally provides a cost-benefit analysis. The FES contains a summary of its evaluations and concludes, after weighing the environmental, economic, technical, and other benefits of the Cherokee facilities against environmental and other costs, and considering available alternatives, that the action called for under NEPA and 10 CFR Part 51 is the issuance of construction permits for the plant subject to certain conditions for protection of the environment (FES, p. iii).

19. The Board finds that the FES, as supplemented by the testimony and evidence presented in this proceeding, is an adequate and comprehensive review and evaluation of the environmental impact resulting from plant construction and operation. Further, the Board finds that the FES, as so supplemented, sets forth an adequate evaluation of all alternatives to the proposed action which reasonably may be required.

## NEED FOR POWER

20. In December of 1974, the Applicant estimated that the first of the Perkins-Cherokee units would be needed in 1983 with an additional unit to follow each succeeding year. These estimates of demand for power and the generating capability required to meet the demand, along with adequate reserves, were incorporated in the Applicant's Environmental Report (ER 1.1). The Staff reviewed the Applicant's projections and agreed that Perkins 1 would be needed in 1983 with Cherokee 1 following in 1984 (FES Sec. 8).

21. On October 27, 1975, eight days prior to the commencement of evidentiary hearings, the Applicant announced a one-year delay in each of the six units, with the first unit scheduled on-line in January of 1984.

22. The revised estimates of capability and demand are shown in the left half of the following Table 1.

(Testimony of Beyer p. 5 following Tr. p. 82). The peak load forecasts are lower than those shown in the ER and the FES, reflecting a downward change in the growth pattern previously projected for 1975 (Tr. p. 11). However, a delay in putting Perkins 1 and Cherokee 1 on line by one year results in projected reserve capacities of under 10% for several years in the early 1980's. These reserves are well below those recommended by the Federal Power Commission (FES p. 4-40) and below those recommended by the Applicant (Beyer p. 6).

23. To remedy the situation, the Applicant has embarked on a program of load management in an effort to enhance its reserve margins. The program is designed to restrain the growth of new "on-peak" loads, and to shift certain

TABLE 1

| Unit Additions | PEAK LOAD, CAPABILITY AND RESERVES: Total Capability (MW) | Forecast Peak Load (MW) 10/75 | Reserves at Peak MW | Reserves at Peak % | PEAK LOAD, CAPABILITY AND RESERVES WITH LOAD MANAGEMENT (LM)*: Peak Reduction With L.M. (MW) | Peak With L.M. (MW) | Reserves with L.M. MW | Reserves with L.M. % |
|---|---|---|---|---|---|---|---|---|
| *1980* | 14,782 | 12,615 | 2,167 | 17.2 | 453 | 12,162 | 2,620 | 21.5 |
| *1981* Catawba 1 (1153 MW) | 15,935 | 13,504 | 2,431 | 18.0 | 518 | 12,986 | 2,949 | 22.7 |
| *1982* Catawba 2 (1153 MW) | 17,088 | 14,431 | 2,657 | 18.4 | 588 | 13,843 | 3,245 | 23.4 |
| *1983* Retirements (135 MW) | 16,953 | 15,399 | 1,554 | 10.1 | 660 | 14,739 | 2,214 | 15.0 |
| *1984* Perkins 1 (1280 MW) Retirements (228 MW) | 18,005 | 16,411 | 1,594 | 9.7 | 741 | 15,670 | 2,335 | 14.9 |
| *1985* Cherokee 1 (1280 MW) Retirements (261 MW) | 19,024 | 17,467 | 1,557 | 8.9 | 812 | 16,655 | 2,369 | 14.2 |
| *1986* Perkins 2 (1280 MW) Retirements (93 MW) | 20,211 | 18,572 | 1,639 | 8.8 | 890 | 17,682 | 2,529 | 14.3 |
| *1987* Cherokee 2 (1280 MW) | 21,491 | 19,728 | 1,763 | 8.9 | 968 | 18,760 | 2,731 | 14.6 |
| *1988* Perkins 3 (1280 MW) | 22,771 | 20,938 | 1,833 | 8.8 | 1,050 | 19,888 | 2,883 | 14.5 |
| *1989* Cherokee 3 (1280 MW) | 24,051 | 22,205 | 1,846 | 8.3 | 1,132 | 21,073 | 2,978 | 14.1 |

*The last 4 columns represent the reduction in peaks that Applicant projects with "Load Management" and the resulting increased reserves. Catawba, 1153 MW, plus Perkins, 1280 MW, equals 2433 MW.

types of loads from the peak periods of the day to off-peak periods. Investigations are being conducted in the following areas:

1. Promotion of better residential and commercial building insulation.
2. Promotion of reduced commercial lighting where it is practical in order to reduce the air-conditioning load.
3. Removal of specific large loads from on-peak to off-peak hours. For example, encouraging the operation of municipal water and sewage treatment systems during off-peak hours.
4. Reduction of industrial demand by assisting industrial customers, and supplying "on-line" demand information.
5. Promotion of the proper sizing of electrical equipment in commercial buildings and industrial plants to meet load requirements more efficiently.
6. Use of radio-controlled equipment to disconnect non-critical residential loads such as water heaters.
7. Use of a rate designed to encourage off-peak use and to meter on-peak use (Beyer pp. 6-7).

24. The projected effectiveness of the load-management program in reducing the peak loads and the consequent increase in reserve capacity is shown at the last four columns of Table 1 (Beyer p. 7). Projected reserves of 14% are indicated for most of the 1980's.

25. The Staff questioned whether the load-management scheme preferred by the Applicant would succeed in producing a reduction in peak load of the amount shown in Table 1 (Tr. pp. 100-109). They further questioned the adequacy of the projected 14% reserves, pointing out that it is less than that desired by the Applicant (Tr. p. 111; ER 1.1-3).

26. The Applicant admitted that higher reserves are desirable. However, overriding considerations involving the efficient management and allocation of its resources during the decade of the 1980's and the ultimate cost to its customers warranted the delay (Beyer p. 8, and Tr. pp. 113-116, 122).

27. Need for power is not a contested issue in this proceeding; both Applicant and Staff project inadequate reserves in the 1980's. The Staff objects to the delay announced just prior to the hearing but admits the Board has no authority to require a speed-up of the schedule.

## IMPACTS OF CONSTRUCTION

28. The CNS cite, including transmission lines and a railroad spur, will occupy approximately 2263 acres (FES, p. 4-1). Approximately 1294 acres will be cleared for station use, transmission lines, and railroad spur (FES, p. 4-4), and will not significantly affect agricultural production (FES, p. 4-4). Presently, the site area is devoted to scrub and hardwood forests and abandoned fields (FES, p. 4-1).

29. Noise and dust generated by construction should have little effect in the surrounding area as it is mostly forested and sparsely populated (ER Sec. 4.1.1.5 and FES, p. 4-3).

30. There may be some increase in the turbidity of the Broad River. The Applicant will utilize measures to control erosion during construction (Tr. p. 334) and the Staff expects that these measures will assure no appreciable degradation of existing water quality of the river (FES, p. 4-5).

31. There is no unusual or rare fauna or flora which would be adversely affected by construction of the facility (FES, pp. 4-6 and 4-7) in view of Applicant's commitment set out at paragraph 35 item 20.

32. Some 550 acres of forest will be cleared for transmission lines and be replaced by grasses and small shurbs. The Board questioned at length regarding methods for clearing. The Applicant proposes to use bushhogging (Tr. pp. 276-278) which the Board finds to be environmentally acceptable. The Staff assesses that this will not seriously reduce the population of any plant or animal species indigenous to the area (FES, pp. 4-8 and 4-9).

33. The Staff expects some increase in turbidity in the Ninety-Nine Island Reservoir and in the Broad River due to erosion during construction. The annual average total suspended solids (TSS) in the river is 135 mg/1 and in the reservoir ranges from 20-136 mg/1 (ER Table 2.7.0-10). The erosion which may occur due to construction will increase TSS in both the reservoir and the river. These increases will be temporary and minimized by Applicant's erosion control measures (FES, pp. 4-9, 4-10 and 4-12).

34. A maximum of 17 families may relocate from land used for the site (FES, p. 4-12). Staff consultations with local authorities indicate that the impact of construction upon local community services will be negligible.

35. The Applicant agrees to the following measures to minimize possible adverse effects during construction (FES, pp. 4-14 and 15 and Tr. p. 95):

1. Only the minimum necessary amount of clearing will be carried out for construction preparation (see ER, Fig. 4.1.1-2, for areas that may be cleared of all vegetation).
2. Excavation, filling, and spoiling will be done only within the cleared areas.
3. Areas not needed for permanent plant facilities will be restored to blend with the natural terrain by seeding and restoration planting as soon after construction as possible.
4. Dust generated by vehicular traffic will be controlled by dry weather wetting and paving of the more heavily traveled construction roads.
5. Erosion in the construction area and the resulting sedimentation will be controlled by providing piped drainage systems, intercept and berm ditches, and ground cover where necessary to control the flow of surface water. Construction runoff will be limited according to EPA standards.

6. Spoil materials will be deposited in a controlled manner so that water transport of such material to the adjacent Ninety-Nine Islands Reservoir is negligible.
7. Construction noises will be reduced to acceptable levels. Motor-powered equipment will be equipped with noise-reducing equipment.
8. Smoke and other undesirable emissions to the atmosphere will be controlled. Local and state air pollution control regulations will be adhered to, and permits and operating certificates will be obtained as required.
9. Wastes such as chemlcals, fuels, and bitumens will not be deposited on the natural watershed. Solid construction waste will either be burned, buried, or transported offsite to an approved landfill.
10. Temporary buildings and usage areas will be maintained in a neat manner.
11. As much of the site as possible will be cleaned up and appropriately landscaped as expeditiously as possible after construction.
12. No herbicides, growth retardants, or sprays are to be used in clearing operations.
13. After clearing, the rights-of-way for transmission lines will be planted with suitable cover where necessary for soil stabilization.
14. Selective clearing will be performed adjacent to highways and areas of high visual exposure along transmission corridor rights-of-way.
15. Temporary roads will be built on transmission rights-of-way for access to construction equipment. After construction is completed, these temporary roads will be seeded and returned to suitable wildlife habitat.
16. The railroad spur will be constructed on an existing transmission line right-of-way as far as practicable.
17. Plans for adequate clarification of drainage effluents beyond those included in the Applicant's present plans will be implemented so that the turbidity of waters discharged from holding basins will conform to EPA guidelines.
18. The Applicant will monitor the nearest well while dewatering is in process to ensure that no adverse effect on either the quality or the quantity of the well water is obtained as the result of such dewatering.
19. A control program shall be established by the Applicant to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditons set forth in the construction permit.
20. The Applicant shall preserve the unique mountain-laurel hardwood stand described in FES, Sec. 4.3.1.1.

36. The Board has considered the unavoidable effects of construction, including the effects on land use and water use, on the terrain, the terrestrial ecosystem, and the aquatic environment, and the effects on the community, and

finds that Applicant plans appropriate measures and controls to minimize such effects.

## IMPACTS OF OPERATION

37. The Station will employ 9 wet mechanical-draft cooling towers for condenser heat dissipation (ER, Sec. 3.4 and FES, pp. 3-1, 3-3). At summer design conditions, over 90% of the heat dissipated by the towers is by evaporation of 112 cfs of water and the remainder is absorbed by heating the air that flows through the towers to an exit temperature of about 102°F (FES, p. 3-3). Each tower is about 270 feet in diameter and 74 feet high (FES, p. 3-5). The Staff estimates less than 10 additional hours of fog per year on state highway 13 and on I-85, the main roads nearest to the plant. Plant-induced fog should have a minor impact upon highways and the Cherokee airport (FES, p. 5-1). A ground-fog diagram appears as Figure 5.1 of the FES.

38. Approximately 250,000 pounds of dissolved solids will leave the cooling towers each year in the drift. A map of expected deposition appears as Figure 5.2 in the FES. The most severe deposition of dissolved solids would be 23 pounds per acre falling in the northeast section about 3/4 mile from the towers. The deposit of salt has been analyzed by the Staff which has concluded there will be no significant adverse effects on biota generally or on the beech and laurel stands specifically (Staff Ex. 10).

## RADIOLOGICAL CONSIDERATIONS

39. The FES, at pages 5-13, considers the environmental impact of the transportation of nuclear fuel to CNS and nuclear waste from the plant by applying Summary Table S-4 of 10 CFR Part 51. In a similar manner the environmental considerations of the uranium fuel cycle are considered at FES 5-15 by applying Summary Table S-3, also a part of 10 CFR Part 51. These matters do not constitute significant environmental impacts.

40. The potential radiological effects of the plant operation may be divided into those resulting from postulated accidents and those associated with normal operations.

41. Section 7 of the FES considers the possible environmental impact of various postulated accidents. The Staff concluded that the likelihood of postulated radiological accidents is exceedingly small and need not be considered further.

42. Under 10 CFR §50.36a, nuclear power plants must be equipped with radioactive waste treatment systems to reduce the liquid and gaseous radioactive discharges during normal operations to a level as low as reasonably achievable. To implement this standard, the Commission issued, on April 30, 1975, Appendix I to 10 CFR 50 which established numerical guides on the maximum

dose to individuals who reside near the power plant. Appendix I also specified that population exposures must be kept to a small fraction of natural background doses the fraction to be fixed by use of a cost-benefit balance set out in the Appendix.

43. At the hearing the Staff introduced the FES into evidence. Upper-bound estimates of the population dose due to effluents from CNS were reported in Table 5.2 and were shown to be negligible in comparison with the dose to the U.S. population from background radiation.

44. Individual doses to nearby residents due to radioactive effluents had not been calculated and the Staff and Applicant felt that inasmuch as the plant could not be licensed without demonstrating compliance with Appendix I, the environmental effects could be assumed to be small. The Board disagrees and required that since doses to individuals are an important environmental concern they should be quantified in accordance with Section 51.23(c) of 10 CFR 51. Just as numerical values were assigned to population dose, chemical discharges, thermal impacts, etc., in Table 10.3 of the FES, we asked the Staff to supply at least upper-limit values for individual dose.

45. With regard to cost-benefit balance on population dose, the Commission on September 4, 1975, issued an amendment to Appendix I providing that applications for construction permits which were docketed between January 2, 1971 and June 4, 1976, need not comply with the cost-benefit balance requirements of Section II, paragraph D of Appendix I, provided the radwaste system satisfies the design objectives proposed by the Staff in the RM-50-2 rulemaking proceeding. Applicant, by letter dated September 22, 1975, notified the Staff that it had elected to utilize the amendment to Sec. II D.

46. Since the individual dose limits prescribed by the Sec. II D amendment are more restricitve for a multi-unit station than that required by Secs. II B and C of Appendix I, and since there are additional requirements on quantities of radioactivity discharged, population dose limits will be kept to a small fraction of that due to background. However, the Board asked for evidence that the proposed three-unit station would be able to comply with the II D alternative amendment.

47. The Staff has provided a document dated March 8, 1976, entitled "NRC Staff Evaluation of Liquid and Gaseous Effluents With Respect to Appendix I of 10 CFR 50." This document has been incorporated into the record as Staff Exhibit 11. The expected quantity of radioactive materials released in liquid effluents from Units 1, 2, and 3, excluding tritium and dissolved gases, is 0.19 Ci/yr/reactor which is much less than the 5 Ci/yr/reactor allowed by the amendment to Sec. II D.

48. Staff Table 3 of Exhibit 11 summarizes the doses to individuals. The expected annual dose, or dose commitment to the total body or any organ of an individual in an unrestricted area, from all pathways of exposure, is much less than that permitted by the Appendix I design objectives or by the amended (annex) design objectives.

49. The Board concludes that the dose to the population surrounding the CNS will be very small compared to background radiation and meet the Commissions regulations for "as low as reasonably achievable." Although the doses to individuals are lower than required by Appendix I, Applicant has made a commitment not to remove any components of the radwaste treatment system as described in Section 11, PSAR as that document existed on August 8, 1975 (FES, App. B-1).

50. With respect to radiological impact on biota other than man, the Board finds that there will be no substantial impact as a result of the quantity of radionuclides to be released into the Broad River or into the air by the Cherokee Nuclear Station.

## ENVIRONMENTAL MONITORING

51. Section 6 of the FES addresses preoperational and operational monitoring programs, including consideration of cooling tower drift, terrestrial ecology, aquatic communities and radiology. Section 6.2.5 of the ER described monitoring programs until the first unit goes commercial. The Board questioned the Staff whose witnesses testified (Tr. p. 427) that the Applicant's proposed program was adequate.

52. The Staff further testified that the preoperational monitoring programs now in effect would provide adequate base-line data upon which to assess the effects upon the environment of plant operation (Tr. p. 426 and 427). Section 6.2.5 of the ER describes these programs.

53. The Board generally concurs with the program proposed by Applicant and approved by the Staff but finds that the preoperational monitoring program include some of the preoperational monitoring stations orginially proposed and included by the Applicant (ER 6.1-4) but subsequently deleted by the Applicant (ER 6.1-5, Amendment 2, paragraph 2; Table 6.1.1-5, Amendment 2). These are Stations 19 and 20. The Board believes that neither the Applicant in these ER amendments and its replies to the Board (Tr. pp. 189-200; 223-226; 424-427) nor the Staff's FES (FES 6-2, Sec. 6.1.2.2, paragraph 5) and its replies to the Board (Tr. pp. 299-313; 424-427) has sufficiently justified why these two preoperational sampling stations should be deleted. Accordingly, the Board requires that preoperational sampling of Applicant's Stations 19 and 20 be resumed immediately.

## WATER QUALITY AND EFFLUENT LIMITATIONS

54. The thermal component of the blowdown discharge was considered at some length during the hearing (Tr. pp. 172-181, 209-217, 223-226, and 302-313). The Staff's view of this testimony and the conclusion reached in the FES are summarized in the following two paragraphs as its "worst case."

55. The Ninety-Nine Islands Dam is immediately below the proposed CNS location and governs the flow of the river past the planned cooling tower blowdown discharge facility. The minimum flow of water past this location is the amount that leaks through the dam and its associated hydroelectric facility when the latter is not operating. This flow is estimated by Applicant to be 40 cfs (FES, p. 5-40; Tr. p. 174). The blowdown discharge is about 10 cfs (Tr. p. 174). The greatest expected temperature difference of blowdown over river water is 30° (FES, p. 5-4; Tr. pp. 196, 223, and 224).

56. This combination of circumstances results in Staff's calculation that the temperature of water in the river may be increased by more than 5° after mixing with the blowdown and that the 5° isotherm will likely extend all the way across the river at a location 3000 feet down stream. If instead of the 40 cfs minimum, the calculation is performed using 470 cfs, which is the minimum 7-day average flow rate occurring on an average frequency of once in 10 years, the results are similar (FES, p. 5-4).

57. Applicant contends that the case presented by the Staff, as above outlined, is not likely to happen and depends on the coincidence of two events each of which is not a common occurrence: the minimum flow and the greatest drawdown of the Ninety-Nine Islands Reservoir (Tr. pp. 173 and 215).

58. Neither party has concern that the temperatures involved nor the size of the plume would be of more than minor environmental consequence (Tr. p. 311). There are not many fish in that part of the river and those that are there are species not likely to be damaged (Tr. pp. 185 and 186). The Staff's concern is whether the conditions mentioned are likely a violation of State Water Quality Standards (Tr. p. 311).

59. But that concern is beyond our reach. South Carolina has issued a 401 Certificate under FWPCA which states that there is reasonable assurance that CNS will comply with Sections 301, 302, 306, and 307 of that Act (App. Ex. 5). The State has regulations regarding acceptable temperatures and thermal plumes which were adopted in 1972 and continued in effect under Section 302 (Board Ex. 1). Under Section 511(c)(2) of the Act, the NRC may not "review any effluent limitation or *other requirement* established pursuant to" FWPCA (emphasis supplied).[2]

60. Chlorine in the blowdown poses a similar problem. It is the Staff's belief (FES, p. 5-8) that the plans for CNS will not meet a limitation that neither free available nor total residual chlorine may be discharged for more than two hours at each unit each day (40 CFR Section 423.13(j)). This is an effluent limitation promulgated under Section 301; Section 511 precludes our looking behind the 401 Certificate.

[2] See also Second Memorandum of Understanding Regarding Implementation of Certain NRC and EPA Responsibilities, 40 F.R. 60115 and Southern California Edison Co. et al. (San Onofre Nuclear Generating Station), Units 1 and 2, ALAB-248, 8 AEC 957.

61. The third related question regarding water quality has to do with total residual chlorine in the blowdown. There is no effluent limitation to control this concentration. There is a State standard which may be applicable. Section III, general rule 7a (4) provides: "High temperature, toxic, corrosive or other deleterious substances attributable to sewage, industrial waste or other waste in concentrations or combinations . . . which are harmful to human, animal, plant or aquatic lives" may not be introduced into water of the State. When the FES was written, the Staff felt that a condition should be imposed that the blowdown contain not more than 0.1 mg/l (FES Sections 5.5.2.2 and 9.2.3) and was, at hearing time, of the opinion that no effluent limitations or water quality standards apply so that such a license condition could be imposed.

62. Applicant's witnesses testified that blowdown could be retained for a number of hours and that by so doing the total residual chlorine at discharge would be, because of chemical reaction, reduced to between 0.1 and 0.2 ppm (=0.1 to 0.2 mg/l). The environmental cost of this retention would be a one-cycle increase in concentration of salts (Tr. pp. 251 and 252). The Applicant has agreed to a condition that it will maintain no more than 0.2 mg/l of total residual chlorine at the blowdown discharge (Tr. p. 231). This concentration is acceptable to the Staff, is found to be permissible by the Board, and is approved as a condition.

63. In response to Board inquiry regarding the effects of cold shock on fish, Staff and Applicant biologists testified that the probability of serious kills was negligible (Tr. pp. 300 and 184).

64. The Board finds that the environmental effects of heat and chlorine discharges to the Broad River and of the danger to fish of cold shock are minor.

## COST-BENEFIT ANALYSIS

65. As required by 10 CFR Part 51 and the Notice of Hearing, the Board has independently considered the costs to the environment and the benefits to society of the proposed facilities. In this process the Board reviewed the ER and FES and the evidence presented at the hearing.

66. The Staff considered alternatives to the proposed Cherokee units which would not require the creation of new generating capacity, including purchased power, deferring retirement of or upgrading older units. The Staff concluded that purchased power was not available and that older units could not supply the needed power (FES, p. 9-2).

67. The Staff considered whether the required energy could be supplied by other sources, such as coal, oil, natural gas, hydroelectric, geothermal, solar, and wind power (FES, pp. 9-2 through 9-6). Only coal was considered to be a feasible alternative energy source to the proposed nuclear station.

68. The Staff made a detailed comparison of capital and operating (including fuel) costs among the proposed nuclear station and comparable sized

coal stations utilizing low-sulphur coal and using high-sulphur coal (FES, p. 9-3). The Staff concluded from the analysis that a nuclear plant enjoys an economic advantage over a coal plant.

69. The Staff further concluded that the various alternatives (FES, pp. 9-2 through 9-6) for the production of the needed power did not present economic or environmental advantages over the proposed nuclear station and that a nuclear power station was warranted (FES, p. 9-7).

70. The Staff, and Applicant, considered where such a nuclear station should be located. Consideration was given to the existing transmission system; where load was centered and where it would be expected to grow; the availability of condenser-cooling water; and the costs, environmentally and financially of additional transmission facilities (FES 9.1.2.2). Siting considerations of Cherokee were carried out simultaneously with the siting of the three Perkins units, as they are all part of a single project (FES, p. 9-9). A comparison of sites appears as Table 9.3 of the FES. Since no other site enjoys clear economic or environmental advantages over the proposed Cherokee site, the Staff and Board conclude that it is acceptable (FES, p. 9-11).

71. The Staff considered alternative methods for cooling the condenser water to that proposed by the Applicant. The Staff's considerations were limited to condenser-cooling methods which would comply with 40 CFR Parts 122 and 423, the EPA regulations which implement the FWPCA in regard to steam electric power stations.

72. Dry cooling towers of the size and performance necessary for the Cherokee facility have not been developed commercially in the United States (FES §9.2.1.2). Wet-dry towers are significantly more costly than those proposed by the Applicant and they afford poorer plant thermal efficiencies (FES §9.2.1.3). The Staff calculated that a cooling pond would require from 4 to 12 thousand acres and would offer no environmental or cost advantage to the Applicant's proposal (FES §9.2.1.4). The Staff found that though capital costs for natural draft cooling towers would be higher than mechanical draft, operating costs are lower so that net costs are within 1 percent and that the environmental effects would be comparable (FES §9.2.1.7).

73. The Staff also considered alternative proposals to the transmission line routes selected by the Applicant and found them to be (a) longer, (b) involve larger acreage, and (c ) more costly (FES, pp. 9-13 and 9-14).

## ENVIRONMENTAL CONCLUSIONS

74. Although the Board agrees generally with the Staff's analysis of the costs of Cherokee Units 1, 2, and 3 as set out in FES Section 10, the Board finds on the basis of its independent analysis of the evidence that the principal environmental and economic costs are as follows:

1. Clearing and grubbing approximately 661 acres of predominantly forested and semi-forested land.
2. Use of approximately 381 cleared acres for plant facilities.
3. Clearing of 550 acres for transmission line right-of-way.
4. Temporary disturbance of the river bank and bottom during construction of the intake structure.
5. Minor soil erosion and loss of vegetation and small animals during construction.
6. Maximum consumptive use of water of 112 cfs with all units in operation, equal to approximately 4.5% of average Broad River flow.
7. Chemical and thermal discharge to the river resulting in minor disturbance to the aquatic environment.
8. Release of a small quantity of radioactive materials during normal operation.
9. Community impacts, including increased traffic on local highways, increased school attendance, and increased demand on community service during construction.
10. The capital and operating costs of the plant.
11. Irreversible commitment of natural resources including strategic metals and uranium.

75. The Board finds that the principal benefit of the proposed project is the addition of 25.7 million megawatt hours per year of electricity which is needed to provide reliable electric service to residential, commercial, and industrial users in Applicant's service area and grid. There are related secondary benefits of increase to the local tax base and increased local employment.[3]

76. Based on the entire record, the Board finds that the environmental and economic benefits from the construction of Cherokee Units 1, 2, and 3, particularly the output of these facilities to meet the power demands of Applicant's service area and grid (ER Section 1.1; FES Section 8.2), will be greater than the environmental and economic costs which will necessarily be incurred by construction and operation of the facilities. Therefore, the Board finds that the balance between the benefits and costs involved in the construction of Cherokee Units 1, 2, and 3 favors granting the construction permits for the facilities.

## SITE SUITABILITY

77. The Applicant and Staff evaluated the suitability of the Cherokee site for nuclear reactors of the general size and type proposed by the Applicant. The

[3]Consistent with the Appeal Board's decision in *Matter of Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station) ALAB-179, RAI-74-2 159, 177 (February 28, 1974), we do not include these secondary benefits in the overall cost-benefit balance.

Staff's analysis is principally directed to matters of public health and safety from a standpoint of radiology. The basic considerations underlying the analysis are 10 CFR Part 100, 10 CFR Section 50.10(e), and the applicable parts of the Standard Review Plan and the Regulatory Guides. The Staff's analysis is set forth in its Site Suitability Report (SSR) (Staff Ex. 9 following Tr. p. 399).

78. The factors considered in the SSR review were: (a) population density; (b) use characteristics of the site's environs, including whether there are nearby industrial, transportation, or military facilities that could influence the acceptability of the site; and (c) the physical characteristics of the site including geology, seismology, hydrology, and meteorology. Each of these factors has been considered by Staff specialists qualified in the technical disciplines involved.

79. The Staff evaluated the information provided by the Applicant, made visits to the site, and performed its own independent studies and calculations by experts (SSR, p. 2).

80. The Cherokee Nuclear Station will consist of three identical pressurized water reactors of a size, type, and design similar to those reviewed and approved for other nuclear power plants now in operation or under construction. Each Cherokee Nuclear Station unit will have a nuclear steam supply system designed for a thermal output of 3817 megawatts and a net electrical output of 1280 megawatts. The site evaluation by the Staff was conducted for a maximum thermal power of 4018 megawatts per unit (SSR, p. 1).

## POPULATION DENSITY

81. The nearest population center having more than 25,000 people as defined in 10 CFR Part 100, is Spartanburg, South Carolina, which is about 21 miles from the site. The 1970 population of Spartanburg was about 45,000 people. The 1980 population density within 10 miles of the site is projected to be about 130 persons per square mile, and the population density within 50 miles of the site in 1980 is projected to be about 200 persons per square mile.

82. Although the site is not near a very large city, consideration has been given to the possibility of a population center developing at Gaffney, South Carolina. The Applicant's projected population levels, based on projections by EPA, indicate that the population of a 45-degree sector between 5 and 10 miles from the site of the proposed facility, which includes Gaffney, could increase from a 1970 level of about 19,000 to about 38,000 at the very end of plant life (2020). Assuming the same growth rate for Gaffney as for this sector, the 1970 population of about 13,250 for Gaffney would increase to about 26,500 in 2020. The Staff has independently projected that the Gaffney population could reach about 22,000 in 2020 by applying the 1972 Office of Business Economics, Economic Research Service (OBERS) Projection growth rates to the present Gaffney population. Thus it is unlikely that Gaffney would become a population center until very late in the plant's lifetime (SSR, p. 3).

## EXCLUSION AREA, LOW POPULATION ZONE AND EMERGENCY PLANS

83. The minimum distance to the edge of the exclusion area proposed by the Applicant is 2500 feet for the centrally located unit, and 1960 feet for each of the other 2 units, and the low population zone radius proposed is 5 miles. The present population center distance of 21 miles is thus well in excess of the minimum distance of 1-1/3 times the low population zone radius required by 10 CFR Part 100. For the Gaffney area, a major transportation corridor consisting of an interstate highway, a U.S. highway, and a railroad is oriented at almost a right angle to a line between Gaffney and the site. Growth along this corridor could result in a population center distance that is 1 to 3 miles less than the persent 8 -mile distance to Gaffney. Thus reductions in the low population zone from the proposed 5-mile value to the range of 4 to 4.5 miles may become necessary if the Gaffney area develops into a population center. Since the minimum low population zone distances of about 2 ro 3 miles have been found acceptable for similar sites and facilities, considerable margin is available to accommodate still smaller low population distances that could result from growth in the Gaffney area (SSR, p. 4).

84. The Applicant presently owns 87 per cent of the area of the property within the exclusion area and is negotiating for the purchase of the remainder. Applicant has also filed for a Certificate of Convenience and Necessity with the South Carolina Public Utilities Commission, which is necessary for initiation of eminent domain proceedings. None of the property acquired by Applicant or to be acquired has mineral easements or rights owned or controlled by a second party.

85. NRC Staff takes the position that 10 CFR Section 50.10(e) and 10 CFR Part 100 require that prior to the issuance of an LWA, an Applicant must have control over the exclusion area or be able to demonstrate that control will be acquired by an Applicant in a timely manner. (Tr. pp. 297 and 299). The Applicant contends that it must be able to control access to the exclusion area at the time of plant operation but that it need not demonstrate such control before an LWA is issued (Tr. p. 298).

86. The Board does not agree that for LWA purposes a finding of site suitability under 10 CFR Section 50.10(e) (2) requires the Applicant to show total control of the exclusion area. The regulation speaks in terms of information and review presently available and "reasonable assurance." There is sufficient assurance of total exclusion area control in this case in the power of eminent domain to acquire the remaining 13% of the land. If the certificate of convenience and necessity, the prerequisite to the exercise of this power, is denied there will be no plant and therefore no necessity for an exclusion area. This means risk to the Applicant but no more risk than usually attends an LWA.

87. Analysis of the 5-mile low population zone distance indicates that appropriate protective measures can be taken to protect the resident and

transient population in the event of a serious accident. No unusual features for this site have been identified which would prevent a favorable conclusion with regard to the feasibility of developing appropriate emergency plans. And, there is reasonable assurance that appropriate and adequately engineered safety features can be provided to meet the radiation-dose guideline values specified in 10 CFR Part 100 (SSR, p. 6).

## NEARBY INDUSTRIAL, TRANSPORTATION AND MILITARY FACILITIES

88. The nearest industry to the proposed facility is Burlington Industries, a manufacturer of cotton goods, located 2-1/2 miles northwest of the site. A pipeline corridor approximately 4 miles northwest of the site includes pipelines that carry refined liquid petroleum products and pipelines that carry methane gas (SSR, p. 7). There are no other industrial facilities within 5 miles of the plant location.

89. There is presently no state or U.S. highway within 4 miles of the site. The nearest airport is the Cherokee Airport with a sod runway located 9 miles west-nrothwest of the site. There are no military bases or missile sites within 50 miles of the site. Southern Railway has a line 5 to 6 miles from the site which the Staff concludes would pose no hazard to the proposed Cherokee facilities (SSR, p. 7).

## METEOROLOGY

90. A description of meteorological conditions at the site, including the climatology of the region, local meteorological conditions, and expected severe weather, is presented in Section 2.6 of the FES for the Cherokee Nuclear Station, issued in October 1975.

91. The Applicant has provided one full year of meteorological data obtained from meteorological towers located at the Cherokee Station site for the period from September 1973 through September 1974 and meteorological data from the Greenville-Spartanburg Airport for a 5-year period extending from 1968 through 1972 (ER Section 2.6, SSR, p. 8).

92. An evaluation has been made of the short-term accidental releases using the Applicant's on-site meteorological data and the diffusion model described in Regulatory Guide 1.4. The short-term dispersion conditions for this site as evaluated are not as good as for nearly all other sites found acceptable for reactors of the general size and type proposed for the Cherokee site. However, the Applicant has proposed added design features to provide compensating dose reductions (SSR, p. 8).

93. The occurrence of severe weather conditions at the site, including tornado conditions, is similar to other sites in this area of the country. The design-basis tornado specified by the Applicant for the plant has a tangential

wind velocity of 290 mph and a translational velocity of 70 mph. The pressure drop associated with the tornado is 3 psi in 1.5 seconds (PSAR Section 3-3.2.1). The Staff has analyzed the Applicant's proposal and has determined that it conforms with the provisions of Regulatory Guide 1.76 for this region of the country.

## HYDROLOGY

94. The proposed Cherokee Nuclear Station is located on the west bank of the Broad River, about 1000 feet upstream of the Applicant's Ninety-Nine Island Dam. The Applicant proposes to impound 1 leg of the existing Ninety-Nine Islands impoundment to form an intake sedimentation basin. Water from the Broad River will be pumped into this basin by pumps located in the river intake structure. Water from the intake sedimentation basin will be transported to mechanical draft cooling towers for condenser cooling, by pumps located in a makeup intake structure in the basin (SSR, pp. 9 and 10).

95. A nuclear service water pond will be formed by impounding McGowan Creek, a small tributary of the Broad River located immediately west of the plant area. Water from this pond will normally serve as makeup to nuclear service water mechanical draft cooling towers. However, if the cooling towers are temporarily inoperable, nuclear service water can be provided to the plant by flow directly from the nuclear service water pond with discharge back to the pond for evaporative cooling. The storage capacity is sufficient to provide adequate water for cooling the plant for 30 days under normal shutdown or accident conditions, and during low water conditions, such as during an extended drought (SSR, p. 10).

96. An alternate nuclear service water makeup pond will be formed by a dam on a small southeastern arm of the nuclear service water pond of adequate size to provide makeup for nuclear service water cooling towers for a 30-day period during normal shutdown for 2 units coincidental with shutdown of 1 unit under accident conditions (PSAR Section 0.2.5, SSR, p. 10).

97. Plant yard grade will be at elevation 590.0 feet mean sea level. The Ninety-Nine Islands Reservoir water surface elevation is 510.0 feet mean sea level. The potential for flooding the site from several sources has been investigated by the Applicant and independently analyzed by the Staff. Calculations of reasonably possible combinations of probable maximum river flood and upstream dam failures on the Broad River resulted in a calculated peak flood stage of 567.4 feet mean sea level, which is 22.6 feet below plant grade (SSR, pp. 10-11).

98. The ground floor of all plant structures will be at least one foot above the plant grade so that surface water would flow away from the buildings, if the site drainage system capacity were exceeded. Probable maximum flood conditions in the alternate nuclear service makeup pond could result in pond water

levels in excess of plant grade, However, the elevated cooling tower yard and other areas higher than the plant grades will divert any overflow from the pond away from the plant structures (SSR, p. 11).

99. The nearest major user of groundwater for domestic consumption is located 1.8 miles northwest of the site. The nearest industrial and municipal surface water intakes are located 22 and 25 river miles, respectively, downstream of the site. The Applicant and Staff have analyzed postulated liquid radwaste tank spills into the groundwater. With operation of the proposed permanent dewatering system, the postulated spill would flow into the underdrain system, be pumped into an auxiliary holding pond, seep through and under the pond dam, and then be diluted with flow in the Broad River. The Staff calculated a dilution factor of 36,000 and a minimum travel time (based on ion exchange characteristics of the soil) of 4.7 years to the nearest downstream water user. Without operation of the dewatering system, the contaminants were postulated to move in the groundwater and then to break out as a spring at the toe of the plant yard fill to travel as surface water to the Broad River. The dilution factor and travel time for this pathway were calculated to be 11,200 and 1.3 years, respectively. These values are within the ranges of values for other sites previously found acceptable and the site is acceptable for the proposed facilities (SSR, p. 12).

## GEOLOGY, SEISMOLOGY, AND FOUNDATION ENGINEERING

100. The site is located in the Piedmont Physiographic Province of South Carolina, about 8 miles southeast of Gaffney, South Carolina, on the west side of the Broad River. Geologically, the site is in the southern portion of the complex Kings Mountain Belt. Surface deposits are predominantly saprolitic soils and saprolite with scattered outcrops of metamorphosed bedrock. The surface material is underlain by mafic and felsic gneiss, schist, meta-conglomerate, and quartzite. Potassium–argon dating of these rocks indicates that the last major episode of metamorphism occurred between 362 and 234 million years ago. A similar, but earlier event also occurred during the early to middle Paleozoic time span or about 400 million years ago. Because of the intense deformation which preceded or accompanied these regional metamorphic events, tight folds and minor shear zones were produced in the rocks of the region and their original sedimentary and volcanic fabric was altered, thus clouding their genesis and history. They are considered to be sediments of Precambrian and early Paleozoic ages and volcanics deposited in a eugeosynclinal environment. The obscuration of geologic history, mentioned above, makes geologic mapping and determination of local and regional structural relationships difficult. This difficulty results from the region's low relief and from the thick cover of surface deposits that overlies bedrock in the area. Also, the rocks of this part of the Piedmont are highly jointed. Based on postassium–argon dating and field ob-

servations, the minor shear zones at the site are older than 170 million years and have displacements of no more than several inches. Several diabasic dikes marking the last major tectonic event in the area have been injected into the rocks near the Cherokee site. These features have been sampled and dated; the ages range from 254 to 190 million years. Based on the detailed geologic, radiometric, and surface investigations, there has been no tectonic activity at or near the site since the Jurassic age about 150 million years ago (SSR, pp. 13 and 14).

101. Several features in the vicinity of the site have been described in the literature as major faults; however, examination of these features has shown no basis in fact for such a conclusion, or shown that there are alternative and better interpretations of the data (Tr. p. 412). Displacements of several feet resulting from minor faulting have been observed in a spodumene mine 13 miles north-northeast of the site and in a vermiculite mine 35 miles to the southwest. Regional geologic considerations and radiometric dating techniques indicate Triassic or Jurassic age assignments for the formation of these structures. Major tectonic structures in the region of the site are (1) the Gold Hill-Silver Hill Fault Complex, 40 miles east, dated by a pre-Triassic diabase at 254-238 million years; (2) the Jonesboro Fault, 60 miles east-southeast, which is associated with a diabase of Triassic-Jurassic age; (3) the problematic Brevard Zone about 50 miles west of the site whose development is believed to have ceased about Permian-Triassic time (225 million years ago); and (4) the Kings Mountain Compound Fold to the north of the site which was formed at the time or before the oldest shear zones and breccias were developed at the site (SSR, pp. 14 and 15).

102. The Applicant's review of literature and investigations of the site geology have not identified any geologically recent faulting in the site area. In addition, its work has shown that all reported evidence of possible major faulting within a 200-mile radius of the site is related to other geological phenomena, e.g., folding. Where minor faults have been found they have been dated as being geologically old and non-capable within the meaning of 10 CFR Part 100. As a result of these observations, no major recent faulting has been found within 200 miles of the site which could generate a large earthquake. Small earthquakes, however, have been observed in the Piedmont. None has been associated with faulting, though investigations of the depth and thoroughness characteristic of nuclear power-plant siting investigations have not been made for the entire region. Such shocks are assumed to occur on small zones of weakness which are scattered at random throughout the Piedmont Province. The largest such shock was of Modified Mercalli intensity VII. The Applicant and the NRC Staff have also considered both the consequences of a recurrence of the Charleston earthquake of August 31, 1886, 175 miles from the site, and the consequences of ground motion at the site from an earthquake on presently undetected major faults at distances greater than 200 miles from the site (Tr. p. 413). Based on these considerations the 0.15g acceleration proposed by the Applicant for the safe shutdown earthquake (SSE) and the 0.08g acceleration for the operating

basis earthquake (OBE) are adequate for the bedrock at the site (SSR, p. 17, Tr. pp. 414 and 415).

103. Accelerations greater than the bedrock acceleration might occur for structures founded on soil or fill overlying bedrock. Rather than designing for these effects the Applicant proposes to lower the foundations to bedrock and to design the plant for the SSE of 0.15g and the OBE of 0.08g. To reduce buoyant and pressure forces due to groundwater hydrostatic head, the Applicant proposes permanently to dewater the site by use of a pumped underdrain system located under major structures to maintain ground water levels near the base of those structures. The NRC Staff has not completed its review of the Applicant's proposed underdrain system. However, if the Applicant's dewatering system is not acceptable, use of engineered fill is acceptable for this site to evaluate structures above bedrock and to preclude the need for permanent dewatering systems (Tr. p. 417).

104. In addition to the site being acceptable for the Applicant's proposed design with permanent dewatering it is acceptable for similar facilities designed for the greater accelerations that might occur for structures founded on soil or fill overlying bedrock and without permanent dewatering (SSR, p. 18, Tr. p. 414).

105. On the basis of our evaluations, the Staff concludes that, with regard to the geology, seismology, and foundation engineering, the site is suitable for the proposed reactors (SSR, p. 18).

## CONCLUSION ON SITE SUITABILITY

106. On the basis of the Board's analysis and evaluation of the site suitability evidence thus far presented by the Staff and detailed in paragraphs 77 through 105 above, the Board concludes that there is reasonable assurance that the proposed site is a suitable location for the three nuclear power reactors of the general size and type proposed from the standpoint of radiological health and safety considerations under the Atomic Energy Act and the rules and regulations promulgated by the Commission pursuant thereto.

## CONCLUSIONS OF LAW AND CONDITIONS

107. On balance, the Board finds that there will be a need for additional generating capacity within the Applicant's service area in the early to middle 1980's and that the importance of adequate supplies of electrical energy causes the benefit of the proposed facility to exceed the costs by a clear margin.

108. If, after the radiological health and safety phase of this proceeding is concluded and the Board makes affirmative findings on issues 1-3 and a negative finding on issue 4 set forth in the Notice of Hearing, the Board finds that the appropriate action to be taken is to authorize the granting of a construction permit for Cherokee Nuclear Station, Units 1, 2, and 3.

109. The Board finds on the record that a systematic, interdisciplinary approach has been employed in the environmental (NEPA) review of the Cherokee units, that environmental factors have been given appropriate consideration in decision-making along with technical and other considerations, and that evaluations of alternatives to minimize environmental impacts and suitable cost-benefit analyses, as required by NEPA and 10 CFR Part 51, have been conducted. The Board has given careful consideration to all documentary and oral evidence presented by the parties. Based upon its review of the entire record in this proceeding and the foregoing findings, and in accordance wtih 10 CFR Part 51 of the Commission's regulations, the Board makes findings which are set out in the following paragraphs.

110. The application and the proceeding thereon to date comply with the requirements of the Atomic Energy Act of 1954, as amended, the Commission's Rules and Regulations, and the requirements of the National Environmental Policy Act. The Board is issuing this Partial Initial Decision limited to a review of the record on environmental matters and on the matter of site suitability. The record will remain open for the submission of additional evidence on radiological health and safety matters, after which the Board will review the entire record in this proceeding and will render its Initial Decision regarding the issuance or denial of construction permits based upon the remaining issues designated in the Commission's Notice of Hearing herein. Accordingly, the conclusions of the Board appropriate to this stage of the proceeding are as follows.

111. The Board concludes that the environmental review performed by the Staff (Pursuant to the National Environmental Policy Act of 1969) and set forth in the Final Environmental Statement has been adequate. As the result of its review of the evidentiary record developed to date, the Board herewith amends and modifies the FES to provide that total residual chlorine shall not be discharged in the blowdown of the cooling towers in concentrations greater than 0.2 mg/1.

112. The Board concludes that Section 102(2)(A), (C), and (D) of NEPA and 10 CFR Part 51 have been complied with.

113. The Board has considered the final balance among conflicting environmental factors, and has weighted the various benefits against costs, taking account of the need for power, and the alternatives to the plant and certain of its design features and concludes that from the environmental considerations required by NEPA, appropriate action would be the issuance of construction permits. The Board's final determination on the issuance of construction permits will be made after a full review of public health and safety considerations.

114. The Board has further considered the evidence regarding site suitability. As a result, the Board concludes that these considerations now favor the issuance of a Limited Work Authorization for those activities authorized by 10 CFR Section 50.10(e)(1) as the Board concludes that, based upon the available information and review to date, there is reasonable assurance that the proposed

site is a suitable location for nuclear power reactors of the general size and type proposed by the Applicant from the standpoint of radiological health and safety considerations.

115. Any license or permit issued by the Commission to the Applicant shall be subject to inclusion of the following conditions for the protection of the environment:

(i) Those conditions set forth by the Staff in the FES at page iii, paragraph 7;

(ii) Those construction related commitments of the Applicant set forth in the FES at Section 4.5.1 and augmented by the Staff at Section 4.5.2;

(iii) The limitations on residual chlorine of 0.2 mg/1 discussed in paragraph 62; and

(iv) The commitment on the part of the Applicant to not remove any components of the rad-waste treatment system as discussed in paragraph 49.

116. Based upon the Board's Findings and Conclusions, IT IS ORDERED THAT:

117. This Partial Initial Decision shall constitute a portion of the Initial Decision to be issued upon completion of the radiological health and safety phase of this proceeding. IT IS FURTHER ORDERED:

118. In accordance with Sections 2.754, 2.760, 2.762, and 2.764(a) of the Commission's Rules of Practice 10 CFR Part 2, that this Partial Initial Decision shall be effective immediately and shall constitute the final action of the Commission thirty (30) days after the date of issuance hereof, subject to any review pursuant to the Rules of Practice. Exceptions to this Partial Initial Decision may be filed by any party within seven (7) days after service of this Partial Initial Decision. A brief in support of the exceptions shall be filed within fifteen (15) days thereafter, twenty (20) days in the case of the Regulatory Staff. Within fifteen (15) days after service of the brief of appellant (twenty [20] days in the case of the Regulatory Staff), any other party may file a brief in support of, or in opposition to, the exception.

THE ATOMIC SAFETY AND
LICENSING BOARD

Dr. Walter H. Jordan, Member

Dr. Donald P. de Sylva, Member

Frederic J. Coufal, Chairman

Dated at Bethesda, Maryland,
this 21st day of May, 1976.

[Appendix A is omitted from this publication but is available at the NRC's Public Document Room, Washington, D.C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-19

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
Lester Kornblith, Jr.
Dr. George C. Anderson

In the Matter of

Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY
KANSAS CITY POWER AND LIGHT COMPANY

(Wolf Creek Generating Station,
Unit No. 1)

May 18, 1976

Upon motion by applicants for authorization to construct certain roads and a railroad spur to the site of the proposed facility prior to the issuance of a limited work authorization, the Licensing Board rules that: (1) the construction of certain roads will result in only *de minimis* environmental impacts, is not precluded by 10 C F R §50.10(c), and may therefore be undertaken by the applicants at their own risk but subject to a restriction; and (2) the proposed railroad spur will cause more than *de minimis* environmental impacts and is a substantial action adversely affecting the environment which is precluded by 10 C F R §50.10(c).

Authorization to construct certain roads granted, subject to a restriction; authorization to construct a railroad spur denied.

## ORDER AUTHORIZING CONSTRUCTION OF PLANT ACCESS ROAD AND RELOCATION OF FAS ROUTE 10, AND DENYING AUTHORIZATION FOR CONSTRUCTION OF RAILROAD SPUR

This Order is in response to the motion filed by Kansas Gas and Electric Company and Kansas City Power and Light Company (Applicants) for a determination that would authorize their construction of roads and railroad spur line to the site of the proposed Wolf Creek nuclear generating facility. The Atomic Safety and Licensing Board, which is considering the application to construct the Wolf Creek facility, and including the request for a Limited Work Authorization (LWA), denied the motion and its order in that regard was appealed to the Atomic Safety and Licensing Appeal Board of the Commission which affirmed the denial of that motion. The Appeal Board then suggested to the Applicants three avenues for further consideration of the motion and remanded the pro-

ceeding to permit Applicants to select one of the avenues designated by the Appeal Board.

The Applicants have requested, and the Licensing Board has granted, during the ongoing construction permit and LWA proceeding, a special evidentiary session[1] to permit the presentation of evidence within the scope of the Appeal Board suggestion for a determination whether the proposed roadway and railroad spur line would come within the Commission's direction expressed in the regulation 10 CFR Section 50.10(c) which prohibits "... any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site." While the Appeal Board decision has two dissenting opinions related to jurisdictional and environmental considerations (ALAB-321, NRC1-76/4 316-327), the majority held that the Commission "... must consider and protect against any forseeable environmental consequences—whether associated directly with the plant or with adjuncts such as the discharge of heated water, the construction of transmission lines, or the building of passageways for transporting construction materials—which proceed ineluctably from construction or operation of a federally-licensed nuclear power facility." (*Id.* at 306).

Applicants rely upon certain language in the dissenting opinions related to the interpretations of the measure of environmental damage. One dissenting opinion suggests that off-site construction is permissible if it "would entail no consequential environmental impact." (*Id.* at 322) The second dissenting opinion states:

> "The Board has jurisdiction... to rule that construction of the road and railroad will not materially alter the cost-benefit balance of the project. In that way, it will have taken the requisite 'hard look' at the environmental consequences of the road and railroad." (*Id.* at 326)

The regulation (10 CFR Section 50.10(c)), as stated, prohibits substantial action that "would adversely affect the environment of a site." The Licensing Board will apply that direction from the Commission, and if there is no adverse effect from the proposed off-site construction, the Board will issue the requested order for the authority to be granted to undertake such construction.

The Applicants and the NRC Staff both introduced testimony concerning the environmental impacts associated with construction of the proposed plant access road, relocation of Federal Assist Secondary (FAS) Route 10, and the proposed railroad spur.

The Applicants testified that the plant access road construction involves the improvement of five miles of existing public roads, of which two miles are

[1] A portion of this evidentiary presentation by both the Applicants and the Staff was held in Kansas City and was attended by representatives of all parties. A second portion of the presentation was made in Bethesda without objection nor appearance by the intervenors. Provision was made, however, for comments from the intervenors respecting the evidence presented.

currently narrow dirt road impassible during wet weather and three miles are graveled. The access road will be upgraded to FAS standards by widening the right-of-way, broadening the curves, improving line-of-sight grades, replacing the existing bridge over Wolf Creek to accommodate the lake elevation, and paving. FAS Route 10 will be relocated along existing right-of-way one mile to the south of its present location. Neither the present FAS Route 10 nor the existing roads along which the reroute will be constructed meets present FAS standards. The existing road is gravel or dirt; the present bridge over Wolf Creek has been condemned. The four and three-quarter mile reroute will be improved to present day FAS standards.

The proposed road construction will require 61 acres in addition to the present rights-of-way. Of this amount, 26 acres are in pasture and range land, 31 acres are in cropland and 4 acres in woodland. No significant impact on wildlife is anticipated and no families will need relocation. No drainage problems are anticipated since all structures have been designed in accordance with State specifications. No unique wildlife or cropland values are involved. Construction would involve some dust and smoke, but these impacts would be both minimal and temporary. The cost of the road construction—about $3.6 million—is less than one-half percent of the construction cost of the plant.

The Staff analyzed in the Final Environmental Statement the environmental impacts resulting from the construction of the plant access road and the relocation of FAS Route 10 and summarized its analysis during the hearings which are pending. Of particular significance in the Staff's estimation is that the roads will be constructed over existing rights-of-way already committed to roads of one type or another. Recognizing that construction activity necessarily results in some environmental impact, the Staff nevertheless concluded that the impacts associated with the roadway construction could be fairly characterized as "de minimis".

In view of the evidence, the Staff advised the Atomic Safety and Licensing Board that it had no objection to the issuance of an order authorizing the Applicants to commence construction of the plant access road and the relocation of FAS Route 10. The Staff noted that the existing FAS Route 10 would not have to be taken out of service until construction begins on the cooling lake and that, therefore, the Licensing Board's order should specify that the existing Route 10 be kept in service until the issuance of an LWA or construction permit. This requirement would minimize any inconvenience to users of the road prior to the placement in service of the relocated route.

The construction of the proposed railroad spur involves approximately 13 miles of right-of-way and 150 acres of land. Of this 150 acres, 90 acres are currently in cropland, 54 acres in range land, and 6 acres in woodland. The principal crops grown on this land are soybeans, wheat, hay, sorghum, and corn. The range land is primarily used for the raising of beef cattle. The land which would be removed from production by virtue of the construction of the railroad

spur is equally as productive as the average farming land in Coffey County. The right-of-way would bisect 31 tracts of land and cross a number of small creeks and 3 farm ponds.

Upon the basis of the foregoing evidence with respect to the railroad spur, the Applicants argued that the proposed construction would have only a "negligible" impact on the environment and, therefore, they should be permitted to commence said construction. The Staff, however, concluded that the construction of the railroad spur would entail more than "de minimis" environmental impacts. Whereas the roadways would make use of existing roadbeds, the railroad spur would transect land presently in productive cultivation. In the Staff's view, the removal from production of approximately 150 acres of farm land was the most significant impact distinguishing the proposals for the railroad spur and roadways. Included in the environmental impact of the railroad spur is the Applicants' proposal to utilize an average width of either 92 or 115 feet for the 12.8-mile single track line. The range in width is from 80 feet to 190 feet,[2] the latter width apparently planned for railroad turn around capability adjacent to the Missouri Pacific (Mo-Pac) rail line. The Applicants propose that the line will be adequate to permit extension to the City of Burlington and the town of New Strawn, if such extension is requested and feasible for the Mo-Pac to operate. The present proposal, however, is only for service to the proposed site of the nuclear facility but there has been some consideration of use of the spur to haul quarry material from an intermediate location between the Mo-Pac line and the nuclear site.

Having carefully reviewed the testimony discussed above and the oral arguments of counsel for the Staff and the Applicants, the Board concludes that the construction of the plant access road and the relocation of FAS Route 10 will result in only "de minimus" environmental impacts and will not, thereby, constitute "any clearing of land, excavation or other substantial action that would adversely affect the environment." The Board has also determined that the Applicants may commence construction of the two proposed roadways. Such construction shall be entirely at the risk of the Applicants. The Board believes, however, that the Applicants should not be permitted to remove from service the existing FAS Route 10 prior to the issuance of a limited work authorization or construction permit, and therefore that restriction is a part of this Order.

With respect to the proposed railroad spur, however, the Board finds that the environmental impacts (particularly, the removal from production of approximately 150 acres of productive farmland) will be more than "de minimis." The Board also finds that the proposed railroad spur line construction

[2] The evidence also shows how typical cross-sections are divided into allocations for one purpose or another, such as auto roadways for maintenance, slope, drainage, etc. The necessity for such widths for the designated purposes was not presented.

is a "... substantial action that would adversely affect the environment..." of the proposed site. The proposed construction does, therefore, fall within the preclusion of Section 50.10(c). For these reasons, the Board denies the Applicants' request for authorization to commence construction of the railroad spur.

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act, as amended, and the Rules of Practice of the Nuclear Regulatory Commission, that Applicants' request for authorization to commence construction of the plant access road and relocation of FAS Route 10, in accordance with the construction plans set forth on the record of this proceeding and subject to the restriction noted above, is hereby granted. Applicants' request for authorization to commence construction of the railroad spur is denied.

Dr. George C. Anderson, due to a conflict in schedules, was unable to attend the last portion of the evidentiary sessions held in Bethesda. Dr. Anderson has reviewed all of the transcripts and proposed findings and concurs in the result here expressed.

ATOMIC SAFETY AND
LICENSING BOARD

Lester Kornblith, Jr., Member

Samuel W. Jensch, Chairman

Issued:
May 18, 1976
Bethesda, Maryland

UNITED STATE OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-20

ATOMIC SAFETY AND LICENSING BOARD

Sheldon J. Wolfe, Chairman
Dr. J. Venn Leeds
Joseph F. Turbridy

In the Matter of

Docket No. 50-549A

POWER AUTHORITY OF THE STATE OF NEW YORK

(Greene County Nuclear Power Plant)

May 20, 1976

Upon petition for leave to intervene and request for an antitrust hearing, the Licensing Board rules that petitioner has failed to describe with sufficient clarity and precision a situation inconsistent with the antitrust laws and a meaningful nexus between that situation and activities under the sought license.

Petition denied.

RULES OF PRACTICE: INTERVENTION PETITION (ANTITRUST)

A petition for leave to intervene in an antitrust proceeding must describe with requisite particularity the situation inconsistent with the antitrust laws and the activities under the license which would create or maintain a situation inconsistent with the antitrust laws.

## MEMORANDUM AND ORDER

On March 15, 1976, the Nuclear Regulatory Commission published in the *Federal Register* (41 Fed. Reg. 10971) the Attorney General's advice concerning the antitrust aspects of the application for a construction permit of the Power Authority of the State of New York (Applicant) for its Greene County Nuclear Power Plant. The Attorney General concluded that there were no antitrust problems which would require a hearing of the Commission on the instant application. Said *Federal Register* notice advised that any person whose interest may be affected by the antitrust aspects of the proceeding may, pursuant to 10 CFR §2.714 of the Commission's Rules of Practice, within 30 days, file a petition for leave to intervene and request an antitrust hearing. On April 12, 1976, the Citizens to Preserve the Hudson Valley (Petitioner) filed such a peti-

tion.[1] On May 7, 1976, Applicant and the NRC Staff filed their answers opposing the petition for leave to intervene.[2]

In its Petition for Leave to Intervene, Petitioner asserts that (1) as an unincorporated association, the majority of its membership of approximately 1300 individuals reside in Greene County, New York, and that (2) its primary concern is the economic impact the proposed plant will have on the electric utilities, upon nearby suppliers of electrical equipment, and upon the price of electricity for area residents and industries (Paras. 1, 2, 4). In a supporting affidavit accompanying the petition, Petitioner's attorney deposes that Petitioner has an interest in this proceeding because, if the application is granted, electric prices will rise, the private utilities which serve Petitioner's members may be forced out of business, and that extant reliable electric service might be disrupted (Affidavit, Para. 3). We assume, arguendo, that Petitoner has standing.

Further, Petitioner's attorney deposes that the granting of a license to the Applicant will have the following significant anti-competitive effects. The first contention is that the concentration of control over bulk power supplies in the State of New York will increase (Affid., para. 5a). In support of this contention, Petitioner avers that one of Applicant's documents, appended to its application pursuant to Appendix L of 10 CFR Part 50, shows that Applicant, through construction or acquisition, will own an overwhelming disproportionate share of the new bulk generating facilities in New York State during the next ten years, with no concomitant increase in its own load (Affid., para. 6a). The second contention is that private citizens and private industries will be systematically excluded from direct access to bulk power supplies (Affid., para 5b). In support of this contention, Petitioner avers that the Appendix L submission shows that Applicant's ownership of electric generating facilities will result in the restriction of available bulk electric power supplies to private citizens (Affid., para 6b). The third contention is that credit, services and products for large scale capital facilities for the generation and transmission of electricity in New York State will be monopolized, that markets for privately owned utilities will be eliminated and that said utilities possibly will be driven out of business, and that unfair competition will result from the deliberate creation of over-supply (Affid. paras. 5c; d; e). In Support of this contention, Petitioner avers that the

[1] On January 7, 1976 Petitioner filed a petition for leave to intervene in the construction permit proceedings.

[2] Both Applicant and the Staff concurred in contending that Petitioner lacks standing to intervene. In addition, the Applicant urged that antitrust laws do not apply to activities mandated by a State, and that Petitioner has failed to particularize its contentions with respect to a situation inconsistent with the antitrust laws and the necessary nexus. Since, as herein after decided, the petition for leave to intervene is denied for failing to describe with particularity and specificity a situation inconsistent with the antitrust laws and the necessary nexus, the Board does not deem it necessary to discuss the applicability of antitrust laws to State mandated activities.

Appendix L submission shows that Applicant's construction or purchasing will result in a gross over-capacity of power, and said power will probably be sold at low cost to current customers of private electric utilities and thereby undercut the viability of their business (Affid., para. 6c). The fourth contention is that control over privately owned electric utility companies will be concentrated through the ownership arrangements of generating capacity (Affid., para 5f). In support of this contention, Petitioner avers that the Appendix L submission reflects an ominous trend in that Applicant has acquired two electrical generating plants from the Consolidated Edison Company and indicates that competition will be eliminated because members of the New York Power Pool, of which Applicant is a member, have entered into an anti-competitive arrangement (Affid., para. 6d).

In *Louisiana Power and Light Company* (Waterford Steam Electric Generating Station, Unit 3), CLI-73-7, 6 AEC 48-49 (1973) (Waterford I), the Atomic Energy Commission (now the Nuclear Regulatory Commission) stated that:

> The requirement in Section 105 of the Atomic Energy Act for prelicensing antitrust review reflects a basic Congressional concern over access to power produced by nuclear facilities. The specific standard which Congress intended the Commission to use in such reviews—"whether the activities under the license would create or maintain a situation inconsistent with the antitrust laws as specified in subsection 105a"—is a limited one. The standard requires that: (1) the allegations raised by petitioners describe a situation inconsistent with the antitrust laws or the policies clearly underlying these laws, and (2) the specified situation be "created" or "maintained" by the "activities under the license." Thus, it would be insufficient for a petitioner simply to describe a situation inconsistent with the antitrust laws, regardless of how grievous the situation might appear to be. A meaningful nexus must be established between the situation and the "activities under the license"....

Again, in *Louisiana Power and Light Company* (Waterford Steam Electric Generating Station, Unit 3), CLI-73-25, 6 AEC 619, 621 (1973) (Waterford II), the Commission stated that:

> ...While the propriety of pooling arrangement and physical interconnections could certainly be considered in appropriate cases, such matters in most circumstances could not be dealt with by this Commission where no meaningful tie exists with nuclear facilities.

* * * *

> ...In short an intervenor must plead[2] and prove a meaningful nexus between the activities under the nuclear license and the "situations" alleged to be inconsistent with the antitrust laws.

[2]A description of a situation inconsistent with the antitrust laws–however well pleaded–accompanied by a mere paraphrase of the statutory language, alleging that the situation would be created or maintained by the activities under the license, would be deficient. The Petitioner must describe with particularity and specificity the relationship between the activities under the nuclear license and the alleged anti-competitive practices which he alleges. (See 10 CFR 2.714).

Drawing down from the opinions in Waterford I and II, the Atomic Safety and Licensing Appeal Board tells us *inter alia* in *Kansas Gas and Electric Company and Kansas City Power and Light Company* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, NRCI-75/6 559, 574-5 (1975) that, first, an intervenor's petition must describe a situation inconsistent with the antitrust laws; second, "[a] description inconsistent with the antitrust laws–however well pleaded–accompanied by a mere paraphrase of the statutory language, alleging that the situation would be created or maintained by the activities under the license, would be deficient;" and third, the petition must identify the specific relief sought.

Petitioner has not described with requisite particularity either the situation inconsistent with the antitrust laws or the activities under the license which would create or maintain a situation inconsistent with the antitrust laws. For example, Petitioner barrenly alleges, without supporting factual detail, that Applicant's acquisition of two generating plants from Consolidated Edison represents an "ominous trend" and that competition will be eliminated because members of the New York Power Pool, of which Applicant is a member, have entered into an anti-competitive arrangement. Further, even assuming, arguendo, that Petitioner has well-pleaded a situation inconsistent with the antitrust laws, it has failed to describe how such a situation would be created or maintained by the activities under the licensing of the Greene County nuclear facility. It barrenly and conclusionally alleges that the granting of a license would increase the "concentration of control" over bulk power supplies, would result in the "systematic exclusion" of private citizens and private industries "from direct access to bulk power supplies," and would result in a "monopolization" of credit, services and products, in the "elimination" of markets for privately owned utilities, and in "unfair competition" through the deliberate creation of over-supply.[3]

[3]It should be noted that neither industrial users nor privately owned utilities have petitioned for leave to intervene in the antitrust aspects of this case.

Accordingly, we conclude that the Petition is grievously deficient in that it fails to describe the inconsistent situation and the necessary meaningful nexus with enough clarity and precision to enable us to determine the nature of the claim and upon what it is founded. *See Kansas Gas and Electric Company and Kansas City Power and Light Company* (Wolf Creek Generating Station, Unit No. 1), ALAB-299, NRCI-75/11 740, 749-750 (1975).

For the foregoing reasons, the Board denies the Petition to Intervene and Request for an Antitrust Hearing.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

Joseph F. Tubridy, Member

Dr. J. Venn Leeds, Jr., Member

Sheldon J. Wolfe, Chairman

Dated at Bethesda, Maryland
this 20th day of May, 1976.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-21

ATOMIC SAFETY AND LICENSING BOARD

Hugh K. Clark, Esq., Chairman
Dr. Kenneth A. McCollom
Dr. Quentin J. Stober

In the Matter of

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

(Palo Verde Nuclear Generating Station, Units 1, 2 and 3)

Docket Nos. STN 50-528
STN 50-529
STN 50-530

May 24, 1976

Upon application for construction permits for Palo Verde Station, Units 1, 2 and 3, the Licensing Board issues its initial decision, making determinations of fact and law and authorizing the issuance of construction permits for the three units.

# INITIAL DECISION

# (CONSTRUCTION PERMIT)

## APPEARANCES

**Bruce Norton**, Esq.; **Arthur C. Gehr**, Esq.; and **Steven M. Wheeler**, Esq., all of the firm of Snell & Wilmer, for the Applicants, Arizona Public Service Company, et al.

**Andrew W. Bettwy**, Esq., Assistant Attorney General of the State of Arizona for that State's Atomic Energy Commission

**Barbara E. Fisher**, Esq., for the Arizona Clean Energy Coalition

**Stephen H. Lewis**, Esq.; **Michael W. Grainey**, Esq.; **Thomas N. Bruen**, Esq.; **Frederick S. Gray**, Esq.; and **Joseph F. Scinto**, Esq. for the Commission's Regulatory Staff

## TABLE OF CONTENTS


| | | Page |
|---|---|---|
| I. | BACKGROUND AND AUTHORITY | 664 |
| II. | SITE SELECTION AND SUITABILITY | 666 |
| III. | HEALTH AND SAFETY MATTERS | 671 |
| | A. DESCRIPTION AND SAFETY EVALUATION OF THE FACILITY | 671 |
| | B. APPLICANTS' TECHNICAL QUALIFICATIONS MANAGEMENT | 673 |
| | C. QUALITY ASSURANCE PROGRAM | 675 |
| | D. FINANCIAL QUALIFICATIONS | 675 |
| | E. RESEARCH AND DEVELOPMENT REQUIRED | 678 |
| | F. COMMON DEFENSE AND SECURRITY | 679 |
| | G. FIRE PROTECTION FOR THE FACILITY | 679 |
| IV. | ENVIRONMENTAL MATTERS | 681 |
| | A. GENERAL | 681 |
| | B. IMPACT OF CONSTRUCTION | 682 |
| | C. IMPACT OF OPERATION | 684 |
| | D. MONITORING | 688 |
| | E. NEED FOR POWER | 688 |
| | F. CONSIDERATION OF ALTERNATE ENERGY SOURCES | 690 |
| | G. ALTERNATIVES NOT REQUIRING NEW GENERATING CAPACITY | 691 |
| | H. ALTERNATIVE COOLING SYSTEMS | 693 |
| | I. COST FACTORS IN CONSTRUCTION AND OPERATION | 694 |
| V. | COST BENEFIT ANALYSIS | 694 |
| VI. | FINDINGS OF FACT | 696 |
| | A. WITH REGARD TO HEALTH AND SAFETY | 696 |
| | B. WITH REGARD TO ENVIRONMENTAL MATTERS | 697 |
| VII. | CONCLUSIONS OF LAW | 697 |
| VIII. | SUPPORTING OPINION | 697 |
| | A. PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW | 697 |

B. ENERGY CONSERVATION ..... 698
C. TRANSMISSION LINE CORRIDORS ..... 698
D. CONSUMPTIVE USE OF WATER ..... 698
E. CONTAMINANTS IN COOLING WATER ..... 700
F. CONSTRUCTION, FUEL AND DECOMMISSIONING COSTS 700
G. ANALYSIS OF MONITORING DATA ..... 701
H. PROJECT 3–TRANSMISSION LINE ..... 702

IX. CONDITIONS ..... 702

X. DETERMINATION OF ULTIMATE ISSUES ..... 703

XI. ORDER ..... 704

XII. APPENDICES

A. Lists of Exhibits
B. Form of Construction Permits

## I. BACKGROUND AND AUTHORITY

1. This initial decision involves the application of the Arizona Public Service Company, et al. (Applicants), docketed on October 7, 1974, by the United States Atomic Energy Commission,[1] for authorization to construct three substantially identical pressurized water nuclear reactors with the requisite additional facilities for the generation and transmission of electrical energy. Applicants have designated the entire installation as the Palo Verde Nuclear Generating Station. In many places in the record this is abbreviated as PVNGS. In this opinion the entire installation will be identified variously by the terms "the Palo Verde facility," "the Palo Verde Plant," "the facility," "the plant," and "Palo Verde."

2. The Palo Verde facility will be jointly owned by the following:

| | |
|---|---|
| Arizona Public Service Company | 28.1% |
| Salt River Project Agricultural Improvement and Power District | 28.1% |
| El Paso Electric Company | 15.8% |

[1]The Energy Reorganization Act of 1974 (Act of October 11, 1974, P.L. 93-342, 88 Stat. 1233, 42 USCA § 5801) abolished the Atomic Energy Commission, established the Nuclear Regulatory Commission, and transferred to the latter the licensing functions under the Atomic Energy Act. For convenience, we use the term "Commission" to refer to both of these Commissions.

Southern California Edison Company[2] ..... 15.4%
Public Service Company of New Mexico ..... 10.2%
Arizona Electric Power Cooperative, Inc. ..... 2.4%

3. The Arizona Public Service Company (APS) will construct and operate the facility on behalf of the joint owners.

4. A Notice of Hearing with respect to Palo Verde was published on October 22, 1974 and an Atomic Safety and Licensing Board (Board) was established, consisting of Dr. Marvin M. Mann, Dr. Quentin J. Stober, and Daniel M. Head, Esq. as Chairman. Due to other Board commitments of Dr. Mann and Mr. Head, the Board was reconstituted on September 23, 1975 to consist of its present members.

5. The aforesaid Notice of Hearing sets forth the issues pursuant to the Atomic Energy Act of 1954, as amended, and the issue pursuant to the National Environmental Policy Act of 1969 (NEPA); and the responsibilities of the Board with respect to these issues in contested and in uncontested proceedings. The said Notice also provided for intervention and for limited appearances.

6. Pursuant to the Notice, petitions to intervene were received from Arizona Clean Energy Coalition and from Mr. Carmine F. Cardamone, Jr. Both were admitted as intervenors. They participated in the prehearing conferences and in discovery proceedings until December 19, 1975 when (after consolidating as a single intervenor) they withdrew.

7. The Atomic Energy Commission of the State of Arizona filed a written request to participate as a representative of an interested State pursuant to 10 CFR 2.715(c). The request was unopposed and was granted. The Assistant Attorney General, State of Arizona, Andrew W. Bettwy, Esq., represented this participant. The role of this participant was a passive one, no issues being raised or argued.

8. Three prehearing conferences were held on the following respective dates: January 23, 1975, February 27, 1975, and October 23, 1975. The first two prehearing conferences were primarily concerned with the admission of parties, contentions, and discovery. The third prehearing conference was intended to bring preliminary matters to a close and to set a hearing date or hearing dates. The change in ownership of the plant which occurred in August 1975 (see footnote 2) resulted in a need for amendment to Applicants Preliminary Safety Analysis Report (PSAR) and Environmental Report (ER) and to the Final Environmental Statement (FES) and the Safety Evaluation Report (SER) of the Commission's Regulatory Staff (Staff).

9. Amendments to the FES and the SER were issued in February 1976, and an evidentiary hearing on all issues was held on February 23 through 27, 1976. Prior to the hearing, the Board posed fourteen questions to the Applicants and

[2]The share held by Southern California Edison Company was assigned to it in August 1975 by the original owner, the Tucson Gas and Electric Company.

the Staff, which questions comprised the salient contentions of the intervenors, who had withdrawn, plus several questions independently raised by the Board. There were over 25 limited appearances. They were nearly equally divided between those who favored the plant and those who opposed it.

10. During the hearing and subsequent thereto, without objection from the Staff, The Applicants put into evidence 37 exhibits. The Staff, without objection from Applicants, placed 17 exhibits in evidence. The exhibits included, but were not limited to, the Applicants' Application, PSAR and amendments thereto, ER and supplements thereto; the Staff's SER and two supplements thereto and the FES and final supplement thereto; the Preliminary Design Approval of the Combustion Engineering Nuclear Steam Supply System (CESSAR); the 401 certificate issued by the State of Arizona; and answers by the Applicants and the Staff to the questions posed by the Board. A full list of the exhibits introduced into the record appears as Appendix A to this initial opinion. Many of the exhibits were physically incorporated in the transcript. Appendix A shows the exhibits so incorporated and the location thereof in the transcript. The witnesses, whose written statements were included in the exhibits, appeared in person and answered questions by the Board.

11. The decisional record in this proceeding consists of (1) the material pleadings filed therein, including the Commission's Notice of Hearing, the petitions and other pleadings filed by the parties, and the Memoranda and Orders of the Board during the course of the proceeding; (2) the transcript in this proceeding (Tr.) as corrected by the Board which adopts corrections noted by the parties; and (3) the exhibits (Ex./Exs.) received in evidence prior to the close of the record.

## II. SITE SELECTION AND SUITABILITY

12. The site selection process for Palo Verde conducted by the Applicant consisted of a combination of engineering, economic, environmental and socio-economic factors. It entailed consideration of the influence of site characteristics upon the safety, design, construction, and operation of the facility and, conversely, the potential impact upon the area dedicated to the site and the site environs when construction and operation commence. These factors were evaluated through a multi-step screening process starting on a statewide basis, and proceeding from there to identification of specific valleys, then to specific regions, and finally through detailed investigation of 34 specific sites (Tr., p. 402; ER, §9.2.3).

13. Following the evaluation of sites by the Applicants, the Staff looked carefully at two sites other than the selected one (FES, § 9.1.3). One site, Gillespie Dam, was found by the Staff to be very similar to Palo Verde in impact. However, radiological dispersion was found to be less favorable than Palo Verde for population centers (FES, § 9.1.3.2). The other site, Rainbow

Valley, did have certain advantages; namely, the saving of up to 50 miles of transmission line right-of-way; a possible shorter distance for the water conveyance pipeline; and a saving of 15% of vegetation area. However, the principal drawback to the site was that during the course of the geologic investigation, it became apparent that, despite some favorable characteristics, a geologically suitable site could not likely be demonstrated there in a time frame consistent with the scheduled plant operation dates. This was because of faults of unknown age in the site vicinity, poorly stratified surficial deposits having slant lateral continuity, and other local characteristics that made the proving out of a site in this area difficult (FES, § 9.1.3.3). The Staff found that the site selected for Palo Verde is as good as, and in all probability, better than other available sites.

14. The Board's review has been guided by the reactor site criteria given in the Commission's regulations on site selection and suitability as related to radiological health and safety (10 CFR Part 100). The factors considered were the population distribution and density (SER § 2.1; PSAR § 2.13) and use characteristics in the site environs, potential influence of nearby industrial, military or transport facilities (SER § 2.2; PSAR § 2.2), and the physical characteristics of the site, including meteorological (SER § 2.3; PSAR § 2.3), hydrological (SER § 2.4; PSAR § 2.4), geological, seismological (SER § 2.5; PSAR § 2.5) and geothermal (Tr., pp. 676-78; 684-85; 698-700) characteristics of the site. Each of these factors has been considered in detail by qualified experts on behalf of the Applicants and the Staff in the technical disciplines involved. These experts performed independent studies and calculations and made visits to the proposed sites.

15. Applicants and the Staff evaluated the suitability of the Palo Verde site for the nuclear reactors proposed, both from the standpoint of radiological health and safety considerations (PSAR; SER; SER Supps. 1 & 2). The minimum distance from the reactor of any of the three units to the closest site boundary is 900 meters (SER, p. 15-2). The radius of the outer boundary of the low population zone is four miles and the population within this area is about 130 persons (SER, Supp. 1, p. 2-1). The site is about 36 miles west of the closest boundary of the City of Phoenix, which is the nearest existing population center as defined in 10 CFR Part 100 (SER, p. 2-4). Collectively, five communities which lie close to and west of Phoenix have a population of about 17,000 and within the lifetime of the Palo Verde plant could constitute a population center of more than 25,000. However, the nearest of these five communities is 31 miles from the Palo Verde site. Consequently, even under these circumstances the distance to the closest population center is well beyond the minimum distance of 5.3 miles prescribed by 10 CFR Part 100 in relation to the low population zone radius (SER, p. 2-5). The calculated doses from postulated design basis accidents at the minimum exclusion area boundary and the outer boundary of the low population zone meet Regulatory Guide 1.24 and are well within the criteria of 10 CFR Part 100 (SER, p. 15-2). Accordingly, the Staff found that the ex-

clusion area, low population zone, and population center distances for Palo Verde meet the criteria of 10 CFR Part 100.

16. Wintersburg Road is the only highway route which currently traverses the facility exclusion area. The Maricopa County Board of Supervisors has approved the relocation of Wintersburg Road outside the exclusion area (SER, Supp. 1, p. 2-1; PSAR, p. 2.1-2A). The nearest pipeline carries petroleum products and passes five miles south-southeast of the site boundary (SER, p. 2-8; PSAR, p. 2.2-2). The closest railroad passes four miles south-southeast of the site at its closest approach, and the nearest operating airports are approximately eleven and thirteen miles from the site, respectively (SER, p. 2-8; PSAR, pp. 2.2-1, 2.2-2). The nearest military facility is Luke Air Force Base which is situated 33 miles east-northeast of the site (SER, p. 2-8; PSAR, p. 2.2-2). The Applicants and Staff reviewed the probabilities of an aircraft impact with Palo Verde, and concluded that the probability is significantly less than $10^{-7}$ per year (SER, pp. 2-8, 2-9; PSAR, p. 2.2-12). The Staff concluded that with respect to nearby industrial, transportation, and military facilities, the proposed site is suitable for the reactors proposed.

17. Regional climatology and local meteorological conditions have been analyzed for the Palo Verde site (FES, § 2.6; SER, § 2.3; SER, Supp. 1, § 2.3; PSAR, § 2.3). The Applicants have also provided meteorological data obtained from a tower at the site for the one-year period August 13, 1973, to August 13, 1974 (PSAR, § 2.3.2). Severe weather occurrences at the plant site are associated primarily with thunderstorms and dust storms (SER, § 2.3.1; PSAR, § 2.3.1.3). The "dust devil" phenomenon will not significantly affect dispersion or resuspension of materials discharged from the cooling towers planned for Palo Verde which will utilize sewage effluent from the Phoenix metropolitan area (App. Ex. 18; Staff Ex. 8; Tr., pp. 488-92, 494-95, 813-17). The Applicants have committed to an onsite dust sampling program (SER, Supp. 1, p. 2-2; PSAR, p. 2.3-9-B). With respect to atmospheric dispersion conditions, meteorological conditions, including the "dust devil" phenomenon, and the occurrence of severe weather conditions, the Staff found that the proposed site is suitable.

18. The Palo Verde site is located on a dry desert valley plain adjacent to the Palo Verde Hills. Plant grades for Units 1, 2 and 3 are elevations 957, 954, and 951 feet above mean sea level, respectively (SER, p. 2-13; PSAR, p. 2.4-130-A, Figure 2.4-2). Utilizing probable maximum flood criteria set forth in Regulatory Guide 1.59, it has been concluded that river, wash, and stream flooding will be below plant grades (PSAR, p. 2.4-8). The Staff's independent evaluation produced a determination that adequate flood design bases have been provided for the site (SER, § 2.4.2). Availability of safety-related cooling water will not be influenced by any interruptions in normal water supply to the plants (SER, p. 2-14). The Applicants have committed to maintain design basis groundwater levels at not significantly higher than 907, 920, and 920 feet above mean sea level for Units 1, 2 and 3, respectively (PSAR, p. 2.4-130-A). The Ap-

plicants are investigating three alternatives related to the design of the storage reservoir and evaporation ponds which could be implemented to minimize the effects of groundwater seepage from the storage reservoir and evaporation ponds (SER, Supp. 1, § 2.4; PSAR, 2.4-130-A). The Applicants have furthermore committed to providing additional seepage analyses for Staff review and approval prior to construction of the storage reservoir and evaporation ponds (Id.). The Staff concluded that any of the three alternatives is viable, that the Applicants can demonstrate by conservative analyses that the proposed design basis groundwater levels will be maintained (using one or more of the three viable alternatives, if necessary, to reduce the effects of seepage) and that the Applicants' commitments are acceptable SER, Supp. 1, p. 2-3). The Staff found that adequate flood design bases have been provided for the site as proposed; an acceptable safety-related water supply can be provided; proposed subsurface groundwater design levels are acceptable; and site drainage facilities are adequate.

19. The proposed site lies within the Sonoran Desert Sub-Province of the Basin and Tectonic Province. Across a basement complex composed of granitic and metamorphic rocks of Precambian age underlies a bedrock sequence composed of Tertiary volcanic and interbedded sedimentary rocks, and the bedrock sequence underlies an unconsolidated sedimentary sequence composed primarily of alluvial, colluvial and lacustrine sediments ranging from Holocene to Miocene in age (SER, pp. 2-20, 2-21; App. Ex. 34(3); Staff Ex. 9; Tr., pp. 662-66). Geologic mapping, geologic studies, and extensive subsurface exploration demonstrated that no capable faults exist within at least a five-mile radius of the site (Tr. p. 671). No evidence exists for potential surface faulting at the Palo Verde site (SER, p. 2-24; Tr., p. 671). Geologic mapping for a twenty-five mile radius from the site has not shown any Quaternary faults, and the nearest Quaternary fault is approximately forty miles from the site (Staff Ex. 9; Tr., p. 671). The nearest fault which has been identified as capable is the San Andreas Fault System which lies 120 miles southwest of the site (SER, pp. 2-25 through 2-27). The February 4, 1976 earthquake (magnitude 5) near Prescott, Arizona, some 96 miles from the site, occurred in an area where geologic circumstances demonstrated fault activity within the recent geologic past. The Applicants have installed two strong motion accelerometers at the Palo Verde site, and each instrument has a triggering threshold of approximately 0.009 gravity acceleration (Tr., pp. 681-82). The Prescott earthquake was not recorded because the acceleration at the Palo Verde site was less than the threshold (Tr., pp. 681-84). The Applicants' experts have been able to demonstrate an absence of Quaternary fault activity within forty miles of the site, and consequently, it is concluded that it is extremely unlikely that an earthquake of magnitude 5 would occur within that forty-mile radius (Tr., pp. 672, 681-84). A design to withstand a vibratory ground acceleration of 0.2 gravity for a safe shutdown earthquake meets the criteria of 10 CFR Part 100, Appendix A (SER, pp. 2-25 through 2-29; SER Supp. No. 2, App. C).

20. Applicants, Staff, and other outside experts have independently conducted investigations to assess the suitability of the Palo Verde site for geothermal development and to determine the effect of geothermal sources upon the geologic stability of this site (Tr., pp. 676-78, 684-85, 698-700). The geothermal potential was assessed to be low at the site and as such does not jeopardize the geologic stability of the site (Tr., pp. 676-78, 684-85, 698-700).

21. The foundations of the Palo Verde units will be in the uppermost soil layers at depths on the order of three to sixty-five feet below the existing ground surface (Tr., p. 679). The bearing capacity of the soil exceeds the bearing pressures on the order of from three to ten times (Tr., p. 679). The Applicants have evaluated foundation settlement and bearing capacity by state-of-the-art methods. The Staff reviewed the Applicants' evaluation and concluded that the plant structures could be adequately supported on the site soils (SER Supp. 1, pp. 2-3, 2-4; PSAR, § 2.5.4.10).

22. Specific Board inquiries were directed to the liquefaction potential and subsidence at the site (Tr., pp. 688, 691, 705, 1078). Groundwater withdrawal for use at the site will not be sufficiently significant to cause subsidence since the sediment is firm, dense and relatively impermeable (Tr., pp. 679-80). Moreover, the plant location is on an elevated island of bedrock, overlain by only a thin, firm sediment. This will insulate the plant from the effects of subsidence, even in the unlikely event of a major depletion of groundwater by forces over which the Applicants have no control (Tr., pp. 691-93). The Staff concluded that any minimal subsidence as might occur as a result of groundwater declining would be uniform beneath each of the units and, as such, would present no hazard to the Category I structures (SER, p. 2-22). With regard to liquefaction potential, the Applicants conducted an evaluation of the ground response and groundwater conditions (PSAR, §2.5.4.8, and Appendix 2T, §13). The Staff, in conjunction with the U.S. Army Corps of Engineers, reviewed the Applicants' analysis and evaluations (SER, Supp. 1, pp. 2-3, 2-4) and concluded that soil liquefaction would not occur during a safe shutdown earthquake. The Applicants presented topographical information, data, and analyses concerning slope stability at the site (PSAR, §2.5.5). The Staff reviewed Applicants' information and data, and concurred with the Applicants' conclusions (SER, p. 2-31; SER, Supp. 1, p. 2-4). With regard to geologic and seismic conditions, including subsidence, liquefaction, foundation and slope stability conditions, the Staff found that the site was suitable.

23. The above findings of the Staff provide reasonable assurance that the proposed site is a suitable location for this facility. The Board concurs and finds the Staff's review adequate.

## III. HEALTH AND SAFETY MATTERS

### A. DESCRIPTION AND SAFETY EVALUATION OF THE FACILITY

24. The Palo Verde facility will utilize three pressurized water reactors from the product line of Combustion Engineering, Inc. [80 Nuclear Steam Supply System (NSSS)] designed to be operated initially at power levels up to 3,817 MWt [1270 MWe (net)]. Each NSSS will incorporate a pressurized water reactor (PWR) and a two-loop reactor coolant system, each loop consisting of a steam generator, two inlet pipes, one outlet pipe, and two reactor coolant pumps. An electrically heated pressurizer will be connected to one loop and will establish and maintain the reactor coolant pressure. Each reactor will be fueled with slightly enriched uranium dioxide pellets enclosed in Zircaloy-4 tubes with welded end plugs, and is designed for use of a 16 x 16 fuel rod array (CESSAR). The NSSS is similar to that of other large PWRs reviewed and approved by the Commission for construction. Changes include an increase in power from 3,390 MWt to 3,817 MWt from a 14 x 14 to a 16 x 16 fuel rod array, and other less significant changes (SER, App. A, p. 4-1).

25. Water will serve as a moderator and coolant and will be circulated through each reactor vessel and core by the four reactor coolant pumps. Water heated by the reactor then flows through the two steam generators where heat is transferred to the secondary steam system. The steam and power conversion systems are designed to remove heat from the reactor coolant in the two steam generators and convert it to electrical energy. Excess heat removed by the condenser will be discharged to cooling towers through the circulating water system (SER §1.2).

26. The containment structure for each unit will house the NSSS of each unit including the reactor, steam generators, reactor coolant pump, and pressurizer, as well as certain components of the plant's engineered safety features system (SER, § 6.2.1). Each containment will be a steel-lined, pre-stressed concrete structure. The containment structures are designed for an internal pressure of 60 pounds per square inch gauge (SER, § 6.2.1). The primary containment system will be designed to withstand temperatures and pressures resulting from a postulated rupture of piping consistent with criteria given in Regulatory Guide 1.46 (SER, Supp. 1, App. A, § 3.6).

27. The facilities will have a number of engineered safety features designed to prevent accidents and for limiting the consequences in the event an accident should occur. The principal engineered safety features are the emergency core cooling systems (SER, Supp. 1, § 6.3, PSAR, §6.3), the containment heat removal systems (SER, § 6.2.2; PSAR, § 6.2.2), containment air purification and cleanup system (SER, § 6.2.3; PSAR, § 6.2.3), containment isolation systems (SER, § 6.2.4; PSAR, §6.2.4), cumbustible gas control systems (SER, § 6.2.5; PSAR, § 6.2.5), and containment leakage testing program (SER, § 6.2.6; PSAR, §6.2.1.4, 6.2.4.4, 16.4.7).

28. Applicant submitted as part of its Application a PSAR and subsequently added Amendments 1 through 16 thereto. The Application and the PSAR contain a description and safety assessment of the site and of the preliminary design of the facility, a description of the quality assurance program to be applied to the design, fabrication, construction and testing of the facility, a preliminary plan for the Applicants' organization, training of personnel and conduct of operations, a statement of the Applicants' technical and financial qualifications and other pertinent information. (App. Ex. 5). The PSAR describes the design of the balance of plant structures, systems, and components and incorporates by reference, the Combustion Engineering Report, CESSAR. On December 31, 1975, the Staff issued its Preliminary Design Approval (PDA) for the System 80 NSSS (Staff Ex. 6). The PDA confirms that CESSAR is acceptable for referencing under the Regulations and Procedures for Handling Standard Plants. The Staff's Evaluation of CESSAR (SER, App. A and App. B; SER, Supp. 1, App. A) and the report of the Advisory Committee on Reactor Safeguards (ACRS) on CESSAR (SER, Supp. 1, App. A) are part of the record of this proceeding.

29. The Staff has performed a technical review and evaluation of the information and data submitted by the Applicants in the PSAR and subsequent amendments, the CESSAR, and the interface requirements between the PSAR and the CESSAR. As a result of this review and its own independent analysis, the Staff prepared the Safety Evaluation Report, issued October 10, 1975 (Staff's Ex. 3), Supp. 1 to the SER (Staff's Ex. 4), and Supp. 2 to the SER (Staff's Ex. 5). In the SER, the following additional topics are analyzed and evaluated: the design, fabrication, construction, and testing criteria, and expected performance characteristics of the facility structures, systems, and components important to safety; the response of the facilities to various anticipated operating transients and to a broad spectrum of postulated accidents including design basis accidents; Applicants' plans for the conduct of plant operations, the organizational structure, the technical qualifications of operating and technical support personnel, the measures taken for industrial security and the planning for actions to be taken in the event of an accident that might affect the general public; the design of the several systems provided for control of radioactive effluents from the plant; and the financial qualifications of the Applicants to design and construct the facility.

30. The Board has independently considered the Application, the PSAR and amendments thereto, the referenced CESSAR, and the SER and its supplements. The Board finds that the Staff's technical review and safety evaluation are adequate and comprehensive. Accordingly, the Board hereby incorporates by reference the conclusions reached by the Staff in the SER and Supplements 1 and 2 thereto, except insofar as they may be modified by the findings made by the Board in this Initial Decision.

31. In addition, the Application has been reviewed by the ACRS which

concluded that there is reasonable assurance that the facility can be constructed and operated without undue risk to the health and safety of the public (SER Supp. 1, App. C of App. A; SER Supp. 1, App. C).

## B. APPLICANTS' TECHNICAL QUALIFICATIONS AND MANAGEMENT

32. The Palo Verde project is made up of six participants each of whom owns an undivided interest in all of the property and facilities comprising the Palo Verde Nuclear Generating Station. Each participant is entitled to a share equal to its ownership interest of the available generating capacity of each Palo Verde generating unit. Pursuant to the terms of the Participation Agreement, Arizona Public Service Company has been designated the Project Manager and Operating Agent for the project and has been authorized to act as agent for the other Participants in such capacities.

33. As Project Manager, APS has sole and complete responsibility for all design, engineering, procurement, quality assurance and construction activities associated with the project and for securing such authorizations, permits and licenses as may be required to construct and operate the project. As Operating Agent, APS will also be solely responsible for its operation when construction and testing are completed (App. Ex. 1).

34. To help carry out its responsibilities, APS has established the Office of Vice President of Nuclear Services reporting directly to the President and Chief Executive Officer. Reporting to the Vice President of Nuclear Services during design and construction stage are the Site Construction Manager, the Quality Assurance Manager and the Assistant Project Director. An appropriate spectrum of technical and support services are responsible to the Assistant Project Director. In addition, the Nuclear Consultant Operations has been assigned from the APS Operating Department full time to work with the staff in all matters relating to plant operation and maintenance, including emergency planning, security, and operator training (PSAR, § 13.1.1.1). The Vice President of Nuclear Services has been assigned the responsibility for all engineering procurement, construction and licensing activities for the facility and for coordinating all other related activities up to the commercial operation date of each Unit (PSAR, § 13.1.1.1).

35. The operating assistant plant managers for each of the three units of Palo Verde report to the plant manager for the facility who in turn reports to the Power Production Vice President who in turn reports through the Operations Executive Vice President to the President and Chief Executive Officer of APS. Each assistant plant manager has direct responsibility for operating each Unit in a safe, reliable and efficient manner. Under supervision of the plant manager, he is responsible for control of onsite personnel activities and for complying with the station's operating license and applicable state and federal regulations. Each Unit also has an operations supervisor, a health, safety and chemistry supervisor, a

maintenance supervisor, a technical supervisor and appropriate supporting staffs reporting to the unit assistant plant manager (PSAR, § 13.1.2.2).

36. Technical support for the plant staff will be provided primarily by the Nuclear Service Department of APS. The Power Production Vice President also has backup technical staff to service all operating units both nuclear and fossil fuels in the APS operating system (PSAR, Fig. 13.1-3).

37. The proposed training program is designed to provide an acceptable number of trained and experienced personnel for operation and maintenance of the facility in accordance with station procedures and the Commission's Regulations and is acceptable at the construction permit stage of review (SER, § 13.2; PSAR, § 13.2).

38. Operations of the reactors and associated systems will be conducted according to detailed written and approved procedures. Procedures will be prepared for the plant to cover all normal and reasonably foreseeable abnormal operating conditions. The administrative and operating procedures will be completed and reviewed at least six months prior to fuel loading (PSAR, § 13.5, SER, § 13.5). An independent Review and Audit Group will provide advice and recommendations to the Vice President of Nuclear Services. This Group will also recommend approval of proposed changes to the operating license, including technical specifications, for submission to the Commission (PSAR, § 16.6.5.2.2). The Onsite Review Organization will advise the plant manager on all matters affecting the safe operation of the station by functioning as an investigation and reporting organization. The Onsite Review Organization also will report to the Independent Review and Audit Group in matters related to safety. Recordkeeping provisions have been shown to be acceptable (PSAR, § 13.6; SER, § 13.6). The Applicants' arrangements for protection of the plant against acts of industrial sabotage are acceptable for the construction permit stage of review using several means to reduce the probability and effects of industrial sabotage through: design and arrangement of plant features, control of access of personnel and material to the plant and plant site, employee screening during the selection of plant operating personnel, and use of a well-trained plant security force (PSAR, § 13.7; SER, § 13.7).

39. The Board concurs with the Staff's conclusions that Applicants have established an acceptable organization to manage the Palo Verde facility and that proposed plant organization and plans for offsite technical support of plant operations are acceptable (SER, § 13.1; PSAR, § 13.1) the proposed training program will provide an acceptable number of trained personnel for operation of the facility. (SER, § 13.2; PSAR § 13.2). Acceptable plans for review and audit of plant operations have been presented (SER, § 13.4; PSAR, § 13.4); the proposed program for preparation, review, approval and use of written procedures is acceptable (SER, § 13.5, PSAR, § 13.5); record keeping provisions are acceptable (SER, § 13.6; PSAR, § 13.6); and arrangements for protection against acts of industrial sabotage are acceptable (SER, § 13.6; PSAR, § 13.7).

## C. QUALITY ASSURANCE PROGRAM

40. The Applicants have formulated a comprehensive quality assurance program (PSAR, § 17). The program delineates the quality assurance reponsibilities of each organization involved in the project, with emphasis upon the manner in which APS for the Applicants will assure itself of the quality of the completed project. Responsibility for establishing and executing the Quality Assurance Program is not divisible (Tr. p. 309); however, execution of portions of the Quality Assurance Program has been delegated to the principal contractors (PSAR, § 17.1A; SER, § 17.2; Staff Ex. 13; Tr., pp. 416-419). APS contracted with Combustion Engineering, Inc. for the design and procurement of the NSSS and with Bechtel Power Corporation to provide services for the design and procurement of the balance-of-plant and for the construction of the facility (Tr. p. 401). The APS has established a Quality Assurance Group with a Quality Assurance Manager to review and audit the activities of the contractors both onsite and in vendors' shops. Division of responsibilities between and among APS and its two principal contractors for carrying out the Quality Assurance Program has been well defined, has been implemented, and is functioning satisfactorily (Staff Ex. 14; Tr., pp. 433-438, 500-519, 591-602). Based upon their review and audits, the Staff concluded that the Quality Assurance Program for the facility is acceptable (SER, § 17.0). The Board agrees with the Staff that the Applicants' Quality Assurance Program complies with the requirements of Appendix B of 10 CFR Part 50 and is acceptable for the design, procurement and construction of Palo Verde facility.

## D. FINANCIAL QUALIFICATIONS

41. The Commission's Regulations relating to Financial qualifications for applicants for facility construction permits appear in paragraph 50.33(f) of 10 CFR Part 50 and Appendix C to 10 CFR Part 50. In accordance with these Regulations, the Applicants, Arizona Public Service Company, Salt River Project Agricultural Improvement and Power District (Salt River Project), Southern California Edison Company, El Paso Electric Company, Public Service Company of New Mexico, and Arizona Electric Power Cooperative, Incorporated, submitted financial information with their application as well as providing additional financial information.

42. Arizona Public Service Company is an investor-owned public utility engaged in the business of generating, transmitting and distributing electricity and distributing natural gas to approximately 300,000 customers in 11 of Arizona's 14 counties, and including the City of Phoenix. APS plans to finance its 28.1 percent share of the Palo Verde Nuclear Generating Station design and construction costs as an integral part of its overall construction program. The sources of funds include internally generated funds in the form of retained

earnings, depreciation, and deferred taxes. The types and amounts of external funds to be used will depend on existing market conditions and are expected to include common and preferred stock, long-term debt and short-term notes as required for interim financing. For the years 1978 through 1986, APS plans average annual gross construction expenditures of $526 million. These planned annual expenditures, while larger than recent actual expenditures and the near-term plans, are not unreasonable when one considers the effect on construction costs of future inflation and the necessity to increase generating capacity to satisfy future growth in demand for electricity.

43. APS' net income increased 67 percent from the 12 months ended September 30, 1974 ($32.7 million) to the 12 months ended September 30, 1975 ($54.5 million) or from $2.27 to $2.71 per average share of common stock. Cash earnings available for common stock (defined as net income after preferred dividends, plus depreciation and minus the allowance for funds used during construction) increased from $3.48 to $3.74 per average common share over the same period, which indicates fully adequate coverage of the company's common dividend which was $1.36 per share in 1974 and in 1975. This comparison between cash earnings available for common stock and the common dividend indicates that a significant portion of internally-generated cash is available for construction expenditures. It is also a positive factor in the marketability of the company's securities.

44. Salt River Project (SRP) is a multipurpose project which operates a water irrigation system as well as an electric generation, transmission and distribution system. It is a publicly owned entity organized under the laws of the State of Arizona. Its electric system provides service to approximately 240,000 residential, commercial, industrial and agricultural customers in 3 Arizona counties. SRP plans to finance its 28.1 percent ownership share in Palo Verde Nuclear Generating Station as an integral part of its overall electric system construction program. It is expected that the bulk of funds required during the period of construction of Palo Verde Nuclear Generating Station will be provided from the sale of revenue bonds. The balance of required funds will be provided from internal sources, principally net revenues and depreciation. Planned annual gross construction expenditures for the years 1977 through 1986 are an average $389.7 million. These future projections are significantly larger than recent actual expenditures and the near-term plans through 1976. They are not unreasonable, however, when consideration is given to the effects of inflation and the necessity to increase generating capacity to satisfy future growth in demand for electricity. In all years since formation of SRP, net revenues have been more than sufficient to meet all debt service requirements.

45. Southern California Edison Company (SCE) is an investor-owned electric utility engaged in the business of generating, transmitting and distributing electricity to approximately 2.7 million customers in central and southern California. SCE plans to finance its 15.4 percent share of the Palo Verde Nuclear

Generating Station design and construction costs in the same general manner that other additions to its utility plant are financed. Sources of funds include internally generated funds in the form of retained earnings, depreciation, tax deferrals and contributions and advances from customers. The types and amounts of external sources to be used will depend on existing market conditions and are expected to include common and preferred stock, long-term debt and short-term notes as required for interim financing. For the years 1978 through 1986, SCE plans average annual gross construction expenditures of $1,125.2 million. These planned annual expenditures, while larger than recent actual expenditures and the near-term plans, are not unreasonable when one considers the effect on construction costs of future inflation and the necessity to increase generating capacity to satisfy future growth in demand for electicity.

46. SCE's earnings per share were $3.22 for the 12 months ended September 30, 1975. Cash earnings available for common stock (defined as net income after preferred dividends, plus depreciation and minus the allowance for funds used during construction) were $5.31 per share for same period, which indicates fully adequate coverage of the company's common dividend which was $1.68 per share in 1975.

47. El Paso Electric Company (El Paso) is an investor-owned public utility supplying electricity to approximately 140,000 customers in the States of Texas and New Mexico. El Paso plans to finance its 15.8 percent share of the Palo Verde Nuclear Generating Station design and construction costs as an integral part of its overall construction program. For the years 1978 through 1984, El Paso plans average annual gross construction expenditures of $91.5 million. These planned annual expenditures, while larger than recent actual expenditures and the near-term plans, are not unreasonable when one considers the effect on construction costs of future inflation and the necssity to increase generating capacity to satisfy future growth in demand for electricity.

48. Public Service Company of New Mexico (PSC) is an investor-owned public utility engaged in supplying electricity to approximately 164,500 customers in the State of New Mexico. The company also provides water service to customers in Santa Fe and Las Vegas. PSC plans to finance its 10.2 percent share of the Palo Verde Nuclear Generating Station design and construction costs as an integral part of its overall construction program. The sources of funds include internally generated funds in the form of retained earnings, depreciation and deferred taxes. For the years 1978 through 1985, PSC plans average annual gross construction expenditures of $138.3 million. These planned annual expenditures, while larger than recent actual expenditures, are not unreasonable when one considers the effect on construction costs of future inflation and the necssity to increase generating capacity to satisfy future growth in demand for electricity. PSC's net income increased 35 percent from the 12 months ended November 30, 1974 ($10.4 million) to the 12 months ended November 30, 1975 ($14.0 million) or from $2.00 to $2.45 per share of common stock, which

indicates fully adequate coverage of the company's common dividend which was $1.28 in 1975.

49. Arizona Electric Power Cooperative (AEPC) is a nonprofit electric cooperative organized under the laws of the State of Arizona. It is engaged in generating and transmitting electric power to its five-member cooperative who distribute electric power to customers in 6 Arizona counties. AEPC plans to finance its 2.4 percent ownership interest in Palo Verde Nuclear Generating Station in the same manner that it finances other additions to its utility plant, i.e., through loans guaranteed by the Rural Electrification Administration. AEPC's Projected Sources of Funds Statement indicates this long-term debt method of financing. Short-term funds to meet interim requirements are obtained through loans from the National Rural Utilities Cooperative Finance Corporation.

50. The Staff has reviewed the financial information presented in the application, and amendments thereto, and has concluded that there is reasonable assurance that the aforementioned Applicants can raise the necessary funds to design and construct the Palo Verde facility. Accordingly, the Staff found them financially qualified to carry out the activities for which the construction permits are sought. This conclusion was based on detailed analyses and the Staff's determination that the Applicants' projected financing plans and underlying assumptions are reasonable. The conclusion was also based on the assumption of rational regulatory policies and viable capital markets. These assumptions were necessary because of the lengthy future period involved and the expected heavy dependence on external financing. The Board concurs in the findings of the Staff and finds that the Staff's review was adequate.

## E. RESEARCH AND DEVELOPMENT REQUIRED

51. Test programs which Combustion Engineering, Inc. will conduct to demonstrate the safety of the CESSAR System 80 design to the satisfaction of the Staff include: 8 design tests of the 16 x 16 fuel assembly, verification of in-reactor fuel densification, loss-of-coolant accident refill tests, blowdown heat transfer test, verification of reflood heat transfer coefficients, verification of assumed iodine partition factors, development of a realistic and conservative model for the iodine spiking phenomenon, verification of models used to predict transient and accident loads on the steam generator, and demonstration of performance of the proposed core protection calculator system software and hardware (PSAR, § 1.5; SER, Supp. 1, App. A, §1.4). In addition, the Staff's generic evaluation of anticipated transients without scram is not yet complete (SER, Supp. 1, App. A, § 15.6).

52. The Staff has evaluated these requirements needed to complete the safety analysis and concluded there is reasonable assurance that they will be resolved and the final design will be acceptable (Tr., pp. 1081-1086, SER, Supp.

1, App. A, § 1.4 and 1.6). The Advisory Committee on Reactor Safeguards has also concluded that the items left to be accomplished can be resolved during construction and when resolved will allow the Palo Verde Units 1, 2 and 3 to be operated without undue risk to the health and safety of the public (SER, Supp. 1, App. C). The Board finds that the Staff has made an adequate analysis of the research and development requirements that remain to be done prior to the operation of the Palo Verde facility.

## F. COMMON DEFENSE AND SECURITY

53. The Applicants state that the activities to be conducted will be within the jurisdiction of the United States and that all the directors and principal officers of the Applicants are citizens of the United States. The Applicants are not owned, dominated or controlled by an alien, a foreign corporation or a foreign government. The activities to be conducted do not involve any restricted data, but the Applicants have agreed to safeguard any such data that might become involved in accordance with the requirements of 10 CFR Part 50. The Applicants will rely upon obtaining fuel as it is needed from sources of supply available for civilian purposes, so that no diversion of special nuclear material from military purposes is involved.

54. The Staff found, on the basis of Section 3 of the Application, that the activities to be performed would not be inimical to the common defense and security (SER, § 19.0). After the substitution of the Southern California Edison Company for the Tuscon Gas and Electric Company, by Amendment 13 to the Application [see especially Section 3(d)(3)(ii) and (iii)], the requisite information was provided with respect to the new participant. The Board makes the same finding with respect to the Applicants, as now constitute.

## G. FIRE PROTECTION FOR THE FACILITY

55. The fire protection system will provide fire protection capabilities in areas of the plant where a fire hazard may exist (SER, § 9.5.1; PSAR, § 9.5.1). The Staff concluded that the system will be designed to comply with General Design Criteria, Regulatory Guide 1.29 and industry standards, and that the system will: 1) provide a reliable and adequate supply of water to meet any probable demand with sufficient number of strategically located yard fire hydrants and small fire hose connections throughout the plant, 2) provide portable fire extinguishers of the proper type throughout all plant areas, 3) provide fixed automatic sprinkler, water spray or deluge systems in areas of fire potentials greater than those that can be extinguished with portable or manual equipment, 4) provide fire and smoke detection and monitoring systems for concealed spaces and areas not subject to routine observations or containing combustible materials, and 5) provide chemical extinguishing systems where

automatic sprinkler, water spray or deluge systems are not appropriate (SER, § 9.5.1; PSAR, § 9.5.1).

56. Water for fire protection will be supplied from two independent water storage tanks, each with a 500,000 gallon capacity (PSAR § Amendment 14, 9.5.1.1.1). The system will contain three fire pumps, each of which will be of sufficient capacity to supply the maximum probable demands of the system (SER, § 9.5.1). Automatic low-pressure carbon dioxide flooding systems will be provided for normally unoccupied electrical equipment rooms, hand hose lines with carbon dioxide will be placed in areas near switchgear and motor starter panels and automatically actuated Halon 1301 systems will be provided in each cabinet or compartment which houses electrical equipment in the unoccupied areas of the control room and communications equipment room (SER, § 9.5.1; PSAR, § 9.5.1.2). Neither inadvertent operation nor failure of the fire protection systems will damage any safety-related systems (SER, § 9.5.1; PSAR, § 9.5.1.3).

57. Separate cable spreading rooms will exist above and below the control room for each unit at the Palo Verde facility (Tr., pp. 413-414). The Staff found that Palo Verde meets all of the latest requirements with regard to cable separation and fire protection (Tr., pp. 468-469). The Staff has committed to review the Palo Verde fire protection design in light of the Browns Ferry fire incident task force recommendations and to require Applicants to comply with any recommendations made by the task force (Tr., pp. 469-470; SER, Supp. 1, § 18).

58. Plant design will emphasize fire prevention by using noncombustible or fire resistant materials to the greatest extent possible (SER, § 9.5.1; PSAR, § 9.5.1.3). The Applicants will install noncombustible circular cooling towers, which are concrete with a cement-asbestos fill, instead of the originally proposed combustible rectangular wooden towers (Tr., pp. 779-780; 790-791).

59. Plant design emphasizes integrity of vital areas, components and systems through the use of redundancy, physical separation and engineered fire barriers, singly and in combination (SER, § 9.5.1; PSAR, § 9.5.1). Each of the units is physically separated from the others with no sharing of safety systems (Tr., p. 412). Each unit has its own control room, redundant emergency power supply, separate radioactive waste treatment facilities and separate and redundant ultimate heat sink for emergency and shutdown cooling (Tr., p. 413). No failure of any one control or safety system can affect either mechanically or electrically the operation of its redundant counterpart (Tr., p. 414). Also, walls within 50 feet of any oil filled transformers will be rated and located in accordance with guidelines established by the Nuclear Energy Property Insurance Association (SER, § 9.5.1, PSAR, § 9.5.1.1.1).

60. The Board finds that the Staff's evaluation of the fire protection system design criteria and design bases are satisfactory and conform to requirements of the General Design Criteria and most recent Staff requirements, and is, therefore, acceptable.

## IV. ENVIRONMENTAL MATTERS

### A. GENERAL

61. Applicant submitted on July 11, 1974, an Environmental Report pursuant to Appendix D, 10 CFR Part 50, and subsequently added Supplements 1 to 6 thereto. This Environmental Report, together with the Supplements, was admitted into evidence as Applicants' Ex. 4. The Environmental Report and its Supplements contain detailed information on and evaluations of the environmental impacts associated with construction and operation of the facility. In addition, testimony presented at the hearing detailed certain changes which did not result in different, significant adverse environmental impacts than were previously evaluated.

62. Based on the information submitted by the Applicant in the Environmental Report and its Supplements, and on its own independent review and analysis, the Staff prepared a Draft Environmental Statement (DES) which was issued on April 10, 1975. Copies of the DES, with requests for comments, were sent to appropriate Federal, State, and local agencies. A Notice of Availability, with requests for comments, was published in the *Federal Register* on April 15, 1975 (40 F R 16888). Eighteen individuals, organizations, and agencies commented on the DES, as did the Applicant (FES, pp. ii-iii). The Staff then prepared a Final Environmental Statement (FES) which was issued in September 1975. The comments from the aforementioned individuals, organizations, agencies and Applicant were considered in the FES, and a discussion of these comments was included therein (FES, § 11). Due to a transfer of ownership of a 15.4% interest in the facility from Tuscon Gas and Electric Company to Southern California Edison Company, supplements to the ER were submitted on October 10, 1975. A draft supplement to the FES (DSFES) was then issued by the Staff in November 1975. The DSFES was circulated to Federal, State and local agencies for comment. A Notice of Availability of the ER, FES, and DSFES was published in the *Federal Register* on December 2, 1975 (40 F R 55909). Comments received concerning the DSFES, and one concerning the FES, were then considered by the Staff in Section 11 of the Final Supplement to the FES (FSFES) issued in February 1976.

63. The FES covers in detail the environmental impact of the construction and operation of the facility. It contains a detailed description of the site and the plant, with a discussion of the impact of site preparation and plant construction. In addition, the FES deals with the environmental effects of plant operation, discusses the environmental monitoring program and assesses the environmental effects of accidents. The FES contains a detailed evaluation of the proposed action, including consideration of the need for power, the adverse environmental effects which cannot be avoided, the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term

productivity, and irreversible and irretrievable commitments of resources. It further contains a review of alternate energy sources and sites, of plant design alternatives, and finally provides a cost-benefit analysis. The FSFES contains a re-evaluation of two major areas: transmission lines, and the need for power, which was necessitated by the change in ownership from TG&E to SCE Company. The FES and FSFES contain summaries of the Staff's evaluations and concludes after weighing the environmental, economic, technical and other benefits of the Palo Verde Nuclear Generating Facility against environmental and other costs, and considering available alternatives, that the action called for under NEPA and Appendix D to 10 CFR Part 50 is the issuance of construction permits for the plant subject to certain conditions for protection of the environment (FSFES, pp. iii-iv).

64. The Board finds that on the basis of the FES and FSFES, as supplemented by the testimony and evidence presented in this proceeding, the Staff has made an adequate and comprehensive review and evaluation of the environmental impact resulting from plant construction and operation. Also, the FES sets forth an adequate evaluation of the various alternatives to the proposed action. Further, the Board has independently considered the environmental impact of the proposed action, and the Board hereby agrees with, incorporates by reference and adopts the Staff's evaluations in the FES and FSFES, except where the Staff's evaluations are in conflict with the findings in this Initial Decision.

## B. IMPACT OF CONSTRUCTION

65. The Applicant has identified and the Staff has considered the environmental impact of construction (ER, § 4; FES, § 4). The environmental impact on the land associated with the project will modify the land use of about 4,000 acres at the site, of which some 2,200 acres will be removed from agricultural production, but the use of this land should not cause a significant impact on agriculture (FES, § 4.1.1.1).

66. Construction activities will result in impacts such as dust, smoke, noise and erosion, normally incident to a large construction project of this nature. However, these impacts will be minor and of short duration. The Applicants will take appropriate actions to minimize these impacts (FES, § 4.1.1.2; ER, § 4.1.1 and Supp. 1; Tr., p. 415; ER, § 4.2.2 and Supp. 1, p. S1-4.1-5; FES, § 4.3.2.2; ER, § 4.1.2.1; FES, § 4.3.1.1; FES, § 4.4.2.1).

67. Construction will require the removal of vegetation in the site area; however, no unique plant communities will be lost which are not commonly occurring over vast areas of the lower Colorado subdivision of the Sonoran Desert (FES, § 4.3.1.1; ER, § 4.1.2.1). The associated loss of faunal habitat is not likely to affect any rare, threatened or endangered species which already occur at the site boundaries (FES, § 4.3.1.1).

68. The Applicant has obtained a certificate (App. Ex. 37) under Section 401 of the Federal Water Polution Control Act, as amended (FWPCA) (33 U.S.C. § 1341), from the State of Arizona Department of Health Services that there is reasonable assurance that the proposed construction activity of the Applicants will be conducted in a manner which will not violate applicable water quality standards. This permit complies with the regulations of the U.S. Environmental Protection Agency regarding effluent discharge resulting from material storage and construction runoff water (40 CFR § 423.45), all of which will be contained in the onsite sedimentation basin and evaporation ponds (Tr., p. 415).

69. Natural vegetation will be removed from approximately 1,200 acres of land, temporary disturbance will occur on 730 acres of range and agricultural land and 3 acres of land now in agriculture will be permanently withdrawn during construction of approximately 700 circuit miles of new transmission lines of which about 80% will follow existing rights of way (FES, § 3.8; § 4.1.3; § 4.1.6; FSFES, pp. S-1 through S-14; ER, § 4.2.1; App. Exs. 13, 26, 27, 33). A 40-mile long wastewater conveyance pipeline to supply cooling water to Palo Verde will be buried in a 50-foot wide right-of-way route running from the 91st Avenue Sewage Treatment Plant (STP) to the site. Much of this corridor has been previously disturbed by agriculture (FES, § 3.0 - § 4.1.6; § 4.3.1.2; ER, Supp. 1, pp. S1-4.2-3, 4). Appropriate actions will be taken to minimize transmission line and pipeline construction impacts on native populations of flora and fauna (FES, § 4.5). The routes have been selected to minimize environmental and aesthetic impacts. Construction and maintenance of electrical transmission and water conveyance lines will be guided by appropriate Federal and State guidelines for transmission line right-of-way construction and maintenance (FES, § 4.5.1; § 4.5.2; ER, § 4.2; App. Exs. 13, 24, 26, 27, 28, 33, 35, 36; Tr., p. 746).

70. Construction activities requirement for water will be approximately one-quarter of that which would be expected by continuation of pumping for irrigation purposes which will cease as a result of construction. The proposed withdrawal rate during both construction and operation will have less of an adverse effect on the aquifer than the present withdrawal rate (FES, § 4.3.2; 5.2.2; Tr., pp. 467-68, 472-73).

71. Coccidioidomycosis is an infectious fungal disease endemic in the arid southerwestern United States where the facility will be constructed. The disease is transmitted via spores which grow in the soil, become airborne with dust during earth disturbing operations such as those planned at the stie and subsequently infect the human respiratory system (FES, § 4.4.2.1). In order to reduce the possibility of infection, the Staff has required dust control procedures (FES, § 4.4.2.1; § 4.5). The Applicant is required to report any cases of this disease among construction workers to County and State health authorities.

## C. IMPACT OF OPERATION

72. The Applicants have identified and the Staff has considered the environmental impact of the plant operation (ER, § 5; FES, § 5). The effects of low-level radiation discharged during routine operation at the Palo Verde facility have been evaluated. One of the sources of radioisotopes released during operation is somewhat unique. The common release comes from the small amounts of fission products that leak from the fuel rods into the reactor cooling water and from neutron activated products in the cooling water. The unique source from the operation of this plant comes from radioisotopes used in hospitals in the Phoenix metropolitan area which eventually get into the sewage system and in turn will be piped to the Palo Verde facility for processing and use in the cooling towers to dissipate the waste heat.

73. Leaks in equipment and piping systems that contain primary reactor cooling water and any liquids from decontamination processes make up the liquid waste. These wastes are classified, collected and treated by filtration, demineralization, evaporation and recycling. There will be no release of liquids containing radioactive materials to the environment. The principal source of radioactive gaseous wastes will be gases stripped from the primary coolant. The total recycled liquid will result in tritium buildup in the primary system over the life of the plant and could produce tritium concentrations which could result in excessive exposure to operating personnel especially during refueling (FES, § 3.5.1.3). In case this excessive buildup occurs, the Applicant will evaporate the water and discharge it to the atmosphere in a gaseous form to reduce the tritium in the system (Tr., pp. 1091-1092).

74. Although Appendix I of 10 CFR Part 50 does not call for inclusion of any releases from cooling towers, because of the potential release of I-131 from the cooling tower discharge (App. Ex. 19; Tr., p. 963), this Board was concerned about the combined radiological impacts from both sources of reactor coolant and cooling tower evaporation. The Staff's calculations of doses resulting from the cooling tower releases show maximum doses of 0.1 millirem per year at the location 3.2 miles northwest of Unit 1, based upon a source term of 14 millicuries per year and an elevated release (Tr., pp. 967-968). For the same source term, if a ground release is assumed, the corresponding dose is 0.1 millirem per year at the same location (Tr., p. 968). If for some reason this dose should increase to a point of concern, the procedure presented by which control would occur is to reduce the Iodine-131 contamination in the sewage system which is the source of the cooling tower water by preventing it from entering at the source from the hospitals in the Phoenix metropolitan area (Tr., p. 825; App. Ex. 20; Staff Ex. 12). The change by Applicants from rectangular to circular cooling towers, as they have asserted, will reduce the radioactive release by somewhat over a factor of two over that calculated above (Tr., pp. 818-819).

75. In evaluating whether or not releases of radioactive materials in efflu-

ents from nuclear power plants at the Palo Verde facility were kept "as low as reasonably achievable" [(10 CFR 20.1(c) and 10 CFR 50.34(a)], the Applicants chose the option of dispensing with the cost-benefit analysis required by Paragraph II.D of Appendix I (Staff Ex. 12). Instead, the Applicants chose to provide a radwaste system that satisfies the Guides on Design Objectives contained in the Concluding Statement of Position of the Regulatory Staff in Docket No. RM-50-2, dated February 20, 1975 (the RM-50-2 design objectives). The Staff performed analyses to determine compliance with both the RM-50-2 design objectives applying to all light-water-cooled reactors at a given site and the Appendix I objectives applying to each reactor at a site (Staff Ex. 11). Individual doses resulting from pathways associated with radioiodine, particulates, carbon-14 and tritium released to the atmosphere were evaluated. The maximum dose for this category was to the thyroid of a child (1 to 11 years old) whose diet partially consisted of 530 kg/yr of food crops produced at a residence 1.2 mi. east of the site, and who lived at this same residence for a full year. This dose was estimated to be 8.8 mrem/yr (Staff Ex. 11).

76. The Staff has calculated that the total quantity of radioactive materials released in gaseous effluents from the Palo Verde facility will result in a calculated annual gamma air dose of less than 10 mrads and a calculated annual beta air dose of less than 20 mrads at every location near ground level, at or beyond the site boundary, which could be occupied by individuals. The calculated annual total quantity of Iodine-131 released in gaseous effluents will not exceed 1 Ci/reactor, and the calculated annual total quantity of radioiodine and radioactive particulates released in gaseous effluents from the Palo Verde facility will not result in an annual dose or dose commitment to any organ of an individual in an unrestricted area from all pathways of exposure in excess of 15 mrem (Staff's Ex. 12).

77. The Staff's conclusions are that the aggregate doses associated with operation of the facility meet the RM-50-2 design objectives and that the doses associated with *each* reactor unit at the Palo Verde facility also meet the 10 CFR 50, Appendix I design objectives (Staff Ex. 11). The Board finds that the Staff has made an adequate evaluation of the radiation dosages to be expected from the Palo Verde facility.

78. Potential sources and amounts of sanitary wastes, combustion effluents and other non-radioactive wastes were determined to have small environmental impacts (ER, 3.7; FES, 3.7).

79. The cooling system for Palo Verde will not draw water from any natural water course nor will it discharge heat or chemicals to any natural water body. Therefore, no aquatic impacts can result (FES, § 5.3.1). No certification under Section 401 of the FWPCA is required, other than that described in paragraph 68 of this Initial Decision.

80. The proposed heat dissipation system for the three power plants at the Palo Verde facility will utilize a total of nine circular mechanical draft cooling

towers (Tr., pp. 428-29). The Applicant will divert approximately 75,800 acre feet per year of secondary sewage effluent from the City of Phoenix 91st Avenue STP which will be consumed by evaporation in the cooling system (FES, § 5.5, ER, § 5.8.2; App. Ex. 21, 22 and 23).

81. Ecological effects of plant operations related to consumptive use of water in the cooling system may be observed in the following areas. The riparian habitats along the Salt and Gila Rivers downstream from the 91st Avenue STP are expected to temporarily decline to 1974 levels in approximately 1987 when maximum effluent diversion first occurs (FES, § 5.5.1.1; App. Ex. 23; Tr., pp. 877, 1021). This will result in some reduction of nesting habitat for whitewing doves (Tr., pp. 1027-29). Salt dispersed into the atmosphere by the cooling towers (approximately 65 tons per day, dry weight) and deposited near the site may modify floral and faunal species composition on some acreage near the facility. The degree of impact is presently not predictable (Tr., pp. 840-41). The record supports a finding that these effects will be temporary and/or localized and are expected to be minimal (ER, § 5.4.2; § 5.7.1; FES, § 5.5).

82. The City of Phoenix 91st Avenue STP effluent will initially contain various pathogenic agents, heavy metals and organochlorine compounds. The Applicants will have a water reclamation plant at the site which will markedly reduce the various pathogenic agents to the lower limits of detectability. Heavy metals will be decreased in concentration by the tertiary treatment process. Analysis of the total organochlorine compounds present indicated low concentrations (less than 2 ppb) (FES, § 3.6; Tr., pp. 987-98). The maximum allowable limits for discharge of toxic and deleterious substances into the Phoenix Sewer System is restricted by Phoenix City Code (App. Ex. 32). Enforcement of the Code by the City Water and Sewage Department utilizes physical control, metering and monitoring of wastes discharged into the sanitary sewer system (Tr., pp. 993-98). The storm drainage system in the Phoenix Metropolitan area is a separate system (Tr., pp. 996-97) which allows further control over those pollutants which may enter the sanitary system.

83. Atmospheric effects of operation of the heat dissipation system will result from emission of water as vapor and "drift" and associated dissolved and suspended solids (FES, § 5.3.2). Little or no impact from fog will occur, however, sensible air quality (clarity and visibility) is expected to decrease to some extent in the vicinity of the plant (FES, § 5.3.2). The Board finds these environmental effects minimal and acceptable.

84. An estimated 300 acre feet per year of water will seep from the storage reservoir into the perched water table. The quality of the reservoir water will be approximately 1,000 ppm total dissolved solids (TDS.) TDS of the perched water will be in excess of 1,000 ppm (FES, § 5.2.3). Staff calculations indicate that little standing water will be present in the evaporation ponds during dry periods and only briefly during rainy periods (FES, § 5.2.3). However, to insure that no deterioration of offsite ground water quality occurs as a result of plant opera-

tion, the Applicants will monitor the water quality in adjacent wells on an annual basis. Remedial action will be required if unacceptable contaminate levels occur due to the operation of Palo Verde (FES, § 5.2.3).

85. Analysis of the public health and environmental impacts of the heat dissipation system by Applicants and Staff predicted no potential for public health impact (Staff Ex. 7 & 16; Tr., pp. 481-85, 488-95, 815-17). The selection of circular cooling towers by the Applicants will, in most cases, further reduce the dispersion characteristics from those calculated in the FES to amounts not exceeding one-half of such calculated values (TR., pp. 1036-37). The Board finds that operation of the Palo Verde cooling system will have no significant effects upon public health and safety, and the potential environmental effects will be acceptable.

86. The environmental risks of accidents in transportation have been considered. The environmental risks of radiological effects stemming from transportation accidents is small even for multi-reactor sites, but is currently incapable of being numerically quantified. The nonradiological environmental risks from transportation of radioactive materials are estimated to be 1 fatal injury in 100 years, 1 non-fatal injury in 10 years and $475 in property damage per year (FES, Table 7.3).

87. The maximum electrostatic field gradient resulting from operation of the 525-kV transmission lines is expected to be well below the threshold of sensation (ER, § 3.9.1.4.3) and a person near or on the transmission line right of way should not be subject to a shock hazard (FES, § 5.5.2.2). The soil in the desert areas of Arizona has a very low resistance and grounding of structures in the right of way can be accomplished with relative ease (Tr., p. 1069). The Staff set forth the grounding procedures which will be required of Applicants (Staff Ex. 17). One of the Applicants already has approximately 900 miles of existing 500-kV transmission lines in operation with no shock hazards experienced (Tr., p. 1070).

88. The probability of occurrence of postulated accidents and the spectrum of their consequences to be considered from the radiological effects standpoint have been analyzed using best estimates of probabilities of such accidents and realistic fission product release and transport assumptions. The Applicants have analyzed nine classes of postulated accidents and occurrences ranging in severity from trivial to very serious (ER, § 7.1.1). with reasonable homogeneity in terms of probability within each class (FES, § 7.1). The estimated integrated exposure of the population within 50 miles of the plant for a postulated accident as well as exposure of an assumed individual at the site boundary are much smaller than that from naturally occurring radioactivity (FES, § 7.1; FES, Table 7.2).

89. The Board finds that the Staff has adequately evaluated the environmental risks from operation of the three nuclear power plants at the Palo Verde facility and agrees that the risks are small and are acceptable.

## D. MONITORING

90. Applicants are engaged in the preoperational baseline monitoring program which will establish a reference framework (baseline conditions) for assessing the environmental effects of site preparation, and plant construction and operation (ER, 6.1; FES, 6.1). The initial phase of this program will establish the existing conditions of the site and the second phase, to be initiated at some time after the start of the construction, will provide information on construction impacts. The Staff found the program incomplete and listed several requirements to be submitted in a plan by the Applicants prior to construction phase monitoring (FES, 6.1.1.2). The Applicants will continue to monitor the sewage effluent water quality at the 91st Avenue STP during the preoperational phase (FES, 6.1.1.3; Staff Ex. 19). The Board finds that the initial phase of Applicants monitoring program is satisfactory subject to continuing evaluation by Staff and revision if necessary.

91. Applicants will begin a construction monitoring program when site preparation activities are initiated and will continue it throughout the construction period. A detailed plan of ecological monitoring during the construction phase must be submitted by the Applicants to the Staff (FES, 6.1.3.2). The program will monitor and document site preparation and plant construction activities as they affect water resources, air quality, terrestrial biota, and noise levels. The program will provide a basis for evaluating environmental impact of construction and a basis for corrective action if necessary. The Board finds this is satisfactory, subject to submission of a detailed plan by Applicants and evaluation and approval by the Staff.

92. Applicant will conduct a preoperational monitoring program to establish background levels of radioactivity in the environment, in order to disclose any changes that may occur as a result of plant operation. (ER, § 6.2.1, § 6.3.2; FES, § 6.1.4, § 6.2.2) The Board finds that this proposed preoperational monitoring program will be adequate to provide a basis for measurement and evaluation of the health and safety aspects of the release of radioactivity to the environment from operation of the plant (ER, § 6.1; FES, § 6.1.4).

## E. NEED FOR POWER

93. The service areas of the Participants in the Palo Verde facility include all of the State of Arizona (except for the area north of the Colorado River and the areas in and surrounding Tucson); central, western and southern New Mexico; extreme western Texas; and 15 counties of southern California, excluding major cities such as Los Angeles and Pasadena (FSFES, § 8.1.1; ER, Supp. 6, § 1.1). Combined sales for the service areas in 1973 by class of customer were: residential, 26%; commercial and industrial, 61% and other, 13%.

94. The combined capacity of the service areas in 1974 was 18,520 MWe

(ER, Supp. 6, Table A1.2-4, Sheet 1, and Table B1.2-4). The Participants rely heavily on fossil steam plants, with some capacity in hydroelectric, combustion turbines, and pumped storage (App. Ex. 8). The existing transmission system is composed largely of 230 and 345 kV lines for long distance transmission, with 115 kV lines characterizing shorter distances. A 500 kV line runs from the Four Corners Plant in northwestern New Mexico through Arizona, Nevada, and California interconnections. An extensive system of 345 kV and 500 kV lines are planned for the service area (FSFES, § 9.1.2).

95. All participants in the Palo Verde facility are members of the Western Systems Coordinating Council (WSCC), the reliability council general encompassing the 11 western states as well as parts of British Columbia. The three Arizona-based participants, Arizona Public Service Company, Salt River Project Agricultural Improvement and Power District, and Arizona Electric Power Cooperative, Inc., constituted about 70 percent of the capacity of the Pacific Southwest Power Area, Subarea C, in the year 1974. Public Service Company of New Mexico and El Paso Electric Company are members of the New Mexico Power Pool and have nearly all the capacity of the Pool. The final Participant, Southern California Edison Company is the major party in the Pacific Southwest Power Area, Subarea A, constituting about 85 percent of the total peak demand for that Subarea in 1974. The Participants have agreed to maintain at least a 15 percent reserve margin in order to protect rights to and costs of emergency service (ER, Supp. 6, pp. S6-A1.2-23). The Participants have several jointly owned generating units and transmission lines (Tr., pp. 573-574). Primary interconnections of the Participants in this project are with the Pacific Southwest Area, Subarea B, the Rocky Mountain Power Pool (Colorado), and the Northwest Power Pool, East Group (Utah and Wyoming) (FSFES, Supp., § 8.1.3).

96. The Applicants' projected demand for power is based upon the historical method of forecasting. In addition, the Applicants had an independent econometric modeling study made of the demand for power of the Participants in the Palo Verde facility (App. Ex. 6). Conclusion by the Applicants' witness supported the position that (a) there is no inconsistency between the company forecasts and projections obtainable from the aforesaid econometric model utilizing plausible assumptions about economic and demographic trends and about future gas and electricity prices and, (b) the company forecasts are, if anything, too low on the whole (App. Ex. 6, p. 3; Tr. p. 529).

97. For the six utilities making up the Participants, the population and economic growth in the region is forecasted to be more rapid than the U.S. average (FSFES, Table 8.16). Combining the growth rates forecasted by the Applicants results in an average annual peak demand growth forecast from 1974 to 1988 of 6.1 percent, and for energy consumption during the same period of 5.5 percent (FSFES, Table 8.18).

98. An analysis of performance of commercial sized PWR nuclear power plants over the first 8 years of operation shows an availability factor increasing

from 68 percent of 72 percent and a capacity factor increasing from 58 percent of 67 percent over this period (App. Ex. 12). No evidence of diminution of performance with time was found (Tr. p. 625), and the analysis suggested that the Palo Verde facility could attain a capacity factor of approximately 80 percent. Both the Applicants and the Staff used a capacity factor of 75 percent in making calculations for alternative cost comparisons, and the Staff believes that a 70 percent capacity factor is a reasonable expectation for the Palo Verde facility (Staff Ex. 10, p. 11).

99. Results of studies of the load duration curves suggest that the Applicants should have approximately 50 percent of their capacity in baseload generation (Tr. p. 531; FSFES, § 8.2.3.2; Staff Ex. 10, p. 12) while at the present time Applicants are using intermediate units to supply baseload (Tr., pp. 562-574). Planned baseload capacity as a percent of total is 40 percent in 1986, including the Palo Verde facility FSFES, p. 8-16).

100. The Board finds that the Staff has properly evaluated the Applicants' projection of demand as reasonable over the time period of construction and operation of the Palo Verde facility and that there is a need for increasing the baseload generating capacity of the Applicants' systems to continue to meet the demand of their electrical consumers in a reliable manner.

## F. CONSIDERATION OF ALTERNATE ENERGY SOURCES

101. Coal-fired generating plants are a potential alternative to nuclear plants. By 1986, the Applicants will have 43 percent of its generating capacity in coal-fired units, with nuclear capacity from the proposed Palo Verde facility accounting for another 22 percent. The Applicants are concerned about placing too much reliance on coal because of the potential of higher costs due to possible increased occupational and safety standards and possible increased control of sulfur oxide and other emissions (FES, § 9.1.2.2; ER Supp. 1, § S1-9.2-1).

102. Coal costs predicted for the future are expected to increase. For this reason, the Applicants and the Staff have done a comparative analysis (FES, § 9.1.2.2; ER, § 9.2 and Supp. 1, § S1-9.2, Supp. 3, § S3-9.2, Supp. 6, § S6-9.2). The results in terms of cost comparisons are shown in Table 9.1 and Figure 9.1 of the FES. For coal and nuclear to be about equal in total cost, in present value terms, at 70 percent plant capacity factor, the analysis showed that coal costs would have to be no more than 47 cents per million Btu, whereas the forecasted cost of coal for a new facility on the same time scale as the Palo Verde facility is $1.60 per million Btu for coal (FES, § 9.12.2, Tr., p. 754).

103. The use of gas, fuel oil, or coal-gasification as fuel sources for generating electricity is not considered a viable alternative for Palo Verde because of the high cost and uncertain availability of these fuels (FES, § 9.1.2.4; ER, § 9.2.2.2

and § 9.1.1.2.1). Long-term fuel availability is essential since the objective of the Applicants is to obtain baseload generation (App. Ex. 7).

104. The only viable source of hydroelectric power in the area of the Palo Verde facility would be the Colorado River. The Congressional Act authorizing the Central Arizona Project in September 1968 also recinded Federal Power Commission authority to license hydroelectric projects on the Colorado River between Hoover and Glen Canyon Dams (ER, § 9.2.2.1). New authority would have to be granted before any such projects could be undertaken (FES, § 9.1.2.4).

105. Because geothermal power plants offer the prospects of generation capacity which is independent of the cost of mined or manufactured conventional fuels, these potential resources were examined. Unsuccessful exploration into promising geothermal sites south of Phoenix have been sponsored by the Applicants (ER, § 9.2.2.4). The Applicants have further referred to various consultants, local university professors knowledgeable in this area, and the U.S. Geological Survey with no encouragement because the geothermal potential in the area is low (Tr., pp. 684-685).

106. Use of solar energy could be used to displace proposed electrical heating of homes that otherwise would occur from Applicants' system or could be used to generate electrical power itself through an appropriate conversion. Direct heating of homes through solar energy may penetrate the new home market to as much as 10 percent by 1985 (FES, § 9.1.2.1), but only about 10 percent of the homes in the Applicants' area are expected to be heated by electrical energy by 1980 (FES, § 8.3.2.6). Neither of these figures substitutes for significant portions of the demand for the power from Palo Verde. The date by which conversion of solar energy to electrical energy on the scale of the facility is well past the predicted need-for-power for the Applicants' systems (FES, § 9.1.2.1; ER, § 9.2.2.5).

107. The Board concludes that the Staff has made an adequate evaluation of the analysis of possible alternative sources of energy for Palo Verde and agrees with the Staff that the Palo Verde units are the most probable economic source of electrical energy for the baseload need for power of the Applicants.

## G. ALTERNATIVES NOT REQUIRING NEW GENERATING CAPACITY

108. A Northwest-Southwest United States intertie within Applicants' areas to be partially financed with federal funds was planned as early as 1960 to exchange power during off-season complementary periods. Congress did not appropriate funds for the federal portion of the financing. Moreover, there is short capacity in each area for its own loads, leaving no opportunity for exchange for the needed power proposed to be supplied from Palo Verde (ER, § 9.1.1; FES, § 9.1.1).

109. The Applicants serve territories that are adjacent to one another and

load resource data indicate there will be no reserve capacity within the combined system without the nuclear project or its equivalent by 1984 (Tr., pp. 519-562; App. Ex. 6; FES, § 8.3.3; ER § A1.2). Of all the surrounding pools, only the Rocky Mountain Power Pool is expected to have surplus capacity in the early 1980's but that potential surplus being only 600 to 700 MWe compared to the 3810 MWe of new capacity proposed to be supplied from Palo Verde (FES, § 9.1.1; ER § 9.1.2).

110. Because of the growth predicted during the period requiring power from the facility, the Applicants would find neither load curtailment nor delaying retirement of units [only 100 MWe capacity is scheduled for retirement by 1985 (ER § 9.1.4.1)] as viable alternatives (FES, §9.1.1; ER, §9.1.3) . Most units are operating near maximum capacity, leaving insufficient unused capacity to provide for predicted need for power (FES, § 9.1.1). The operation of peaking and intermediate units as baseload would incur increased demand on expensive-to-operate oil-fired plants, create maintenance requirements reducing system reliability and still would not have sufficient capacity for predicted peak loads (ER § 9.1.5; FES, § 9.1.1). Load shedding can only be considered an emergency and temporary method to overcome a shortage of generating capacity (FES, §8.3.2.4;FSFES § 8.3.2.4). Load scheduling to reduce the impact of load curtailment is limited since the adverse margin condition would exist during a significant part of the year (ER, § 9.1.3.1).

111. Because of the trend of decreasing prices for electricity over the last decade or more, there is insufficient knowledge available on the effect of price on sales if prices of electricity were increasing and what its effect might be on reducing the demand proposed over the time of operation of Palo Verde (FES, § 8.3.2.3; App. Ex. 6, p. 26). Even less has been learned about the responsiveness of electricity sales to changes in the structure of rates (App. Ex. 6, p. 26) and there is no indication that the Arizona Corporation Commission is about to institute such price and rate structure changes as would reduce the projected need for power in the Applicants' service area on a time schedule that would also reduce the need for power projected from the facility (FES, § 8.3.2.3). In addition, any effect of revising the rate structure would be more likely to reduce peak demand rather than to reduce baseload demand for which the facility is intended (Tr., pp. 553-584).

112. Implementation of energy conservation measures by households, business and government contributed to a substantial reduction of growth in the consumption of electricity between the third quarter of 1973 and 1975; however, consumption of electricity in the Applicants' service area for the period October 1974 to April 1975 was only 1 percent lower than for the same period two years earlier immediately prior to the Arab oil embargo (FES, Supp. § 8.3.2.1). Experience to date has failed to indicate the extent to which voluntary conservation on a continuing basis could be sustained, just by a program of exhortation or education, except on a temporary crisis period (Tr., pp. 756-757;

App. Ex. 6, pp. 27-30). The Applicants have terminated or curtailed promotional advertising to accelerate demand for electricity and have developed a program to promote conservation of electricity. This program includes disseminating information both on how to best use and buy appliances and other electrically operated devices and the advantages of home improvements to reduce thermal exchange (FES, § 8.3.2.2; FSFES § 8.3.2.2).

113. Based on the record, the Board finds that: a) there is no foreseeable source of energy through purchase or exchange to supplant the need for base power as proposed for Palo Verde, b) there is no foreseeable operating mode that would replace that need for power, c) there is insufficient evidence to indicate the magnitude of conservation that might occur due to rate increase or rate structure change or even whether implementation could occur on a time scale to replace the need for the facility and d) there is insufficient evidence that voluntary conservation through exhortation and education will have a long-term impact of the magnitude needed to replace the need for power projected for baseload from Palo Verde.

## H. ALTERNATIVE COOLING SYSTEMS

114. The Applicants (ER, § 10.1) and Staff (FES, § 9.2) assumed the use of rectangular mechanical draft-cooling tower systems for purposes of environmental impact analysis until shortly before the Evidentiary Hearing. At that time, however, Applicants announced selection of the circular mechanical draft-cooling tower system (App. Ex. 14-17 and 29-31). The Staff has analyzed a comparison of the social and environmental impacts of the alternative cooling systems (FES, Table 9.3) and compared the monetized cost summaries (FES, Table 9.4). The analysis showed that in an arid climate such as Palo Verde dry-cooling towers, fan-assisted natural draft-cooling towers and a natural draft-cooling system are not feasible, primarily because of local temperatures and humidities (FES, § 9.2.4, § 9.2.5 and § 9.2.6). The wet-dry mechanical draft-cooling system was also analyzed and found not to be a viable alternative to the referenced system by reasons of uncertainties due to technological innovation and cost. The Staff concluded that the circular mechanical draft-cooling towers were an acceptable alternative to the Applicants' referenced rectangular mechanical draft towers (FES § 2.2.1 and § 9.2.2). On the basis of extensive testimony at the Evidentiary Hearings regarding the Applicants' subsequent selection of circular towers, the Staff has concluded and the Board concurs that, in terms of environmental impact, the operating parameters realized with the circular towers are equal to or better than those for the rectangular towers (Tr., pp. 428-429, 481-486, 489, 779-790, 793-800, 807-809, 813-815, 818-819, 824, 830, 960-966, 983-987 and 1036-1049; App. Ex. 14-17 and 29-31).

## I. COST FACTORS IN CONSTRUCTION AND OPERATION OF THE PALO VERDE FACILITY

115. The Applicants' projected escalation rates used for the estimated construction costs of Palo Verde were developed by Bechtel Power Corporation (App. Ex. 9). Bechtel's estimate for future escalation rates for power plant construction are 8 percent for 1976 and 7 percent per year thereafter (App. Ex. 9). The Staff considers that an escalation rate of 6 to 7 percent is more likely to occur over the construction period. The cost analyses of both Applicants and Staff for comparison of nuclear plant to alternative facilities used 7.5 percent escalation rate (Staff Ex. 10, p. 7).

116. The Staff selected a discount factor of 10 percent per year (FES Table 9.1) on the basis that public utilities obtain financing by new stock issues and by sale of utility bonds. The Staff found that a weighted average of recent stock earnings and bond interest rates was approximately 10 percent to justify this number (Staff Ex. 10, p. 11).

117. Escalation rates for fuel costs are over a much longer term than that discussed for capital construction above (Tr., p. 636). The method of computing fuel costs by the Applicants (Tr. pp. 635-645, 651; App. Ex. 10) and by the Staff (Staff Ex. 10, p. 9) were described in some detail. The Applicants have updated their estimate of the price of mid-1980 dollars for yellow-cake ($U_3O_8$) to be around $35 per pound (Tr. p. 642) while the Staff has estimated this uranium price for current costs at about $23 per pound (Staff Ex. 10, p. 9). The Staff stated that these adjustments in their uranium price resulted in a cost estimate of approximately 7.4 mills per kWh compared to the level of 5.6 mills per kWh shown in the FES (FES, Table 9.1) and did not change their conclusion that a nuclear plant is a more favorable selection from a total lifetime cost standpoint than a coal plant for the power needed from the Palo Verde facility (Staff Ex. 10, p. 10). The nuclear fuel cost in the FES includes the cost of radwaste disposal currently estimated by the Staff at 0.1 mill/kWh (Tr. pp. 650, 754-755).

118. The Board has reviewed those cost factors involved in construction that have been so volatile in recent years and that might affect most the cost-benefit analysis of alternative energy sources and finds that the Staff and Applicants have used reasonable numbers to reflect cost calculations. In addition, the Board finds that the cost of uranium fuel used by the Applicants and Staff reflects as reasonable numbers as can be determined at this time and that the variation by itself will not prevent the Board from making a decision as to the cost-benefit balance for the facilities.

## V. COST-BENEFIT ANALYSIS

119. The Board finds that the environmental, economic, technical and

other costs resulting from construction and operation of the Palo Verde facility are mainly:

a. Approximately 4,000 acres of land will be displaced from other potential use for the life of the plant;
b. Natural vegetation and associated wildlife will be disturbed on approximately 1,200 acres of land within rights of way of the transmission lines;
c. Consumptive use of 78,500 acre-feet per year of wastewater for cooling will result in temporary decline of the riparian vegetation and associated wildlife in the Salt and Gila River channels downstream from the 91st Avenue STP;
d. Chemical deposition, principally salt from operation of the cooling towers, will occur on the site and to a lesser degree on the land surrounding the site and may alter salt sensitive flora and fauna;
e. Consumptive use of water for potable supply will amount to approximately 1,600 acre-feet per year of ground water and will cause the underlying aquifer to depress at approximately 1 foot per year which is about one-fourth of the previous rate of usage on the site;
f. Short-term changes in air quality will occur due to smoke and dust during construction and due to heat, moisture, and particulates from cooling towers and from exhaust from infrequent operation of emergency diesel-electric generators;
g. Aesthetic changes will be caused by both the facility and approximately 700 circuit miles of new transmission lines;
h Loss of habitat on the site, and the reduction and alteration of flora and fauna in the site vicinity, will occur;
i. There will be some increase in bird mortality due to disturbances along the transmission line rights of way, and from the opening of minimally accessible land;
j. The incidence of coccidioidomycosis may increase among construction workers as the result of dust raised during construction;
k. A temporary increased erosion will occur on site and in the transmission and pipeline corridors because of the removal of vegetation cover and disturbance of upper soil levels;
l. The radiation dose from normal operations is estimated to be 1350 man-rem per year from occupational on site exposure and an additional 156 man-rem per year to the remaining total U.S. population (FES, p. 5-7);
m. Materials of construction will be almost entirely from depletable sources and must be considered as an irretrievable commitment of these resources;
n. Approximately 17,700 metric tons of contained natural uranium in the form of $U_3O_8$ must be produced to fuel the Palo Verde facility for 40 years;

o. The present worth total generating cost is calculated to be $3.67 billion, assuming a plant capacity factor of 70%, a plant life of 30 years and a 10% discount rate.

120. The Board finds that the benefits from construction and operation of the facility are principally:

a. Approximately 21 billion kWh of electrical energy per year will be the principal benefit from the operation of the Palo Verde facility;
b. A rated electrical generating capacity of 3,810 MWe will be available over the life of the plant for baseload operation in the Applicants' systems;
c. In addition to the market value of the electricity produced, customers will benefit from increased system reliability for the Applicants' systems;
d. Employment for construction phase will be provided at an estimated total of $456 million with average employment estimated to be 2200 employees;
e. Employment for operation will be provided for an estimated 300 employees with an annual payroll of $4.5 million;
f. During the construction phase, the total estimated property tax revenues expected to be received by various jurisdictions is approximately $495 million and the proportion of total sales tax revenues related to construction payroll for redistribution to Maricopa County is estimated to be $2.2 million.

121. Based on all the evidence presented, the Board finds that the environmental, economic, technical and other benefits from the construction and operation of the Palo Verde facility will be greater than the environmental and other costs incurred. Therefore, the Board finds that the balance between the benefits and costs involved in the proposed action favors granting construction permits for the facility.

## VI. FINDINGS OF FACT

### A. WITH REGARD TO HEALTH AND SAFETY MATTERS

122. The Applicants have described the proposed design of the Palo Verde facility, including, but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public.

123. Such further technical or design information as may be required to complete the safety analysis, and which can be reasonably left for later consideration, will be supplied in the Final Safety Analysis Report.

124. Safety features or components which require research and development have been described by the Applicants and the Applicants have identified, and there will be conducted, research and development programs reasonably

designed to resolve any safety questions associated with such features or components, including questions raised by the ACRS.

125. The Palo Verde plant site meets the Reactor Site Criteria set forth in 10 CFR Part 100.

126. The Arizona Public Service company is technically qualified to design and construct the facility.

127. The Applicants are financially qualified to design and construct the facility.

128. Issuance of the permits for the construction of Units 1, 2 and 3 of the facility will not be inimical to the common defense and security or to the health and safety of the public.

### B. WITH REGARD TO ENVIRONMENTAL MATTERS

129. The application and the record of this proceeding contain sufficient information and the review by the Commission's regulatory Staff is adequate, insofar as the environmental requirements of law and regulations are concerned (except for the independent determinations required by the Board), to support the issuance of the proposed construction permits.

130. The Board has determined that the requirements of section 102(2)(A), (C) and (D) of NEPA and Part 51 of 10 CFR have been complied with in this proceeding.

131. The Board has independently considered the final balance among conflicting factors contained in the record of the proceeding for permits with a view of determining the appropriate action to be taken.

132. After weighing environmental and other benefits against environmental and other costs, and after considering available alternatives, the Board has determined that the proposed construction permits should be issued, such permits being appropriately conditioned to protect environmental values.

## VII. CONCLUSIONS OF LAW

133. This is an uncontested proceeding within the meaning of 10 CFR 2.4(n), as there is no controversy between the Staff and the Applicants concerning issuance of the construction permits or concerning the terms or conditions thereof, and the only intervenors in the proceedings (Arizona Clean Energy Coalition and Mr. Carmine F. Cardamone, Jr.) have withdrawn.

134. The Board's responsibilities are set out in 10 CFR 2.104(b)(2) and (3) and in 10 CFR 51.52 and in the Notice of Hearing.

## VIII. SUPPORTING OPINION

### A. PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

135. The Board has reviewed the entire record of this proceeding, including

the proposed findings of fact and conclusions of law submitted by the parties. All of the said proposed findings and conclusions submitted which are not incorporated directly or inferentially in this Initial Decision are herewith rejected as being unnecessary to the rendering of this Initial Decision.

## B. ENERGY CONSERVATION

136. Energy conservation effectiveness is very unpredictable at its current status. The most significant variable appears to be whether such conservation is left on a voluntary basis through education and exhortation or through some mandatory measure. The Applicants' expert indicated that statistical anaylses of electricity consumption during the last two years have failed to provide any conclusive evidence about the role of voluntary conservation (App. Ex. 6, pp. 29-30) and concluded that the primary source of decline in the growth rate of electricity demand during the years 1974-75 was the slowdown in economic growth due to the recession. Although the Board feels that a significant impact can be made through energy conservation measures, it is not confident in predicting when or how much without more satisfying data than are available at the present time.

## C. TRANSMISSION LINE CORRIDORS

137. The Board expressed concern at the third Prehearing Conference that the transmission line corridors were sufficiently wide as to prevent the Board from determining the impact on the environment due to the uncertainty of where the transmission line would eventually be within that corridor. The Applicants have established in the record, with a large volume of analytical materials, that the system by which the corridors are selected and then the final transmission line location determined reflects appropriate procedures to provide a good environmental selection (App. Ex. 13, 26, 27, 28 and 33).

138. The procedure used in the western states is influenced significantly by the fact that the government owns much of the land, i.e., 85 percent of the land in Arizona with the remaining 15 percent privately owned. The reports prepared are according to Department of Interior criteria which reflects this condition. The requirements of the Nuclear Regulatory Commission for the transmission lines are met primarily by summarizing the other more comprehensive reports. During the hearing the Board was convinced by the evidence that the procedure provided significant environmental information for the entire corridor approved and that a logical procedure for selecting the best environmental path throughout the corridor for the transmission lines was used.

## D. CONSUMPTIVE USE OF WATER

139. The reclamation and reuse of municipal wastewater and the closed-

cycle cooling system is a feature unique to this facility which has associated with it certain environmental trade-offs. The proposed consumptive use of water in an arid region constitutes an action which was subjected to close scrutiny by the Board. The fact that the water to be consumed is sewage effluent for which other beneficial uses may exist was examined. Buckeye Irrigation District presently utilizes 30,000 acre-feet of wastewater annually for agricultural purposes; however, further agricultural demand for sewage effluent is limited due to the legal constraints imposed on the amount of acreage under cultivation (Tr., p. 850), the restricted use of wastewater on food crops for human consumption (Tr., p. 858), waterlogging of the lower portions of the Buckeye Irrigation District due to an elevated water table [10,000 acre-feet per year now pumped to waste (Tr. p. 8650)], and the costs of pipeline construction and pumping (Tr., p. 855) to render the effluent available to new agricultural lands elsewhere (Tr., p. 859), particularly in view of the costs of subjugating new lands.

140. The use of sewage effluent for potable water supply is not economical at current purification costs in view of the limited social acceptance of this source by the public, continued use of ground water and future supply by the Central Arizona Project now under construction (Tr., pp. 852-53, 924-27). The recharge of ground water was also considered; however, the location of the 91st Ave. STP downstream from the area of major ground water depletion precludes any significant recharge of the area of depletion (App. Ex. 25; Tr., pp. 909-20). Therefore, the major use of waste water presently is for support of the riparian vegetation and ground water recharge in the Salt and Gila river channels downstream from the 91st Ave. STP (Tr., p. 856). Ground water depletion downstream of the STP is not now, nor is it expected to be, a problem with consumption of a fraction of the effluent planned for Palo Verde because of the shallow depth of the water table in this area (Tr., p. 862).

141. The Board weighed the degree of impact predicted to occur on the riparian vegetation and associated wildlife in the Salt and Gila River channels due to diversion of 75,800 acre-feet per year to Palo Verde. The riparian zone has grown in response to wastewater discharge from the 91st Avenue STP which began operation in 1958 (Tr., p. 866). The acreage of riparian vegetation has fluctuated greatly during the past 100 years due to man's water development activities (Tr., 861-66, 879).

142. It was established that the City of Phoenix owns the sewage effluent with the right to dispose of it to any responsible purchaser (Tr., pp. 873-874). Excess sewage effluent, beside that purchased by the Applicants, will continue to be discharged into the river channel unless other customers in addition to the Applicants appear (Tr., pp. 866, 873). The volume of wastewater effluent is expected to continue to increase with the growth of Metropolitan Phoenix. This increase will result in expansion of the riparian green-belt up to 1987, the year maximum diversion of Palo Verde first occurs, and will stimulate recovery in the years beyond (FES, § 5.5.1.1; App. Ex. 23; Tr., pp. 875-878, 1021).

143. These considerations by the Board lead to the conclusion that the consumptive use of sewage effluent by Palo Verde is a beneficial use of a limited resource in short supply in Arizona and that the negative environmental effects predicted to occur on the riparian green-belt and associated wildlife will be temporary and acceptable.

## E. CONTAMINANTS IN COOLING WATER

144. The sewage effluent used for cooling the facility will contain radioactive Iodine-131, human pathogens, heavy metals and organochlorine compounds based on current analyses at the 91st Avenue STP. The Board accepts the calculations of both the Applicant and Staff which indicate that the use of sewage effluent in the cooling system will not constitute a threat to health and safety or cause significant environmental degradation. However, due to the nature of sewage as a complex waste, the volume to be consumed annually, and the tendency for new and potentially detrimental pollutants to appear in sewage, it is only prudent to monitor the cooling water quality during construction and throughout the operational life of Palo Verde. This will ensure that the discharge of hazardous materials and substances in the cooling tower drift will not exceed air-quality limitations. In addition monitoring will provide the information necessary for early detection and correction of onsite cooling water treatment procedures in the event that significant amounts of hazardous materials or substances appear. Monitoring will provide the data base necessary for determination of the ecological effects of cooling tower drift on the environment surrounding the facility.

## F. CONSTRUCTION, FUEL AND DECOMMISSIONING COSTS

145. The Board requested further information from the parties prior to the hearing on subjects which bear on the financial aspects of construction costs and on the financial considerations for obtaining fuel and providing for disposal of spent fuel byproducts (Staff Ex. 10). The initial concern of the Board was generated primarily because of the volatility of construction costs during the period starting about 1972, the recent volatility of uranium fuel costs probably caused both by the confrontation in the supply of oil and gas fuels and by the unknown factors involved in determining the total supply of uranium that can be made available for nuclear reactors and the effect that energy conservation will play in the future need for the power. The concern of the Board was also one of the main concerns expressed by the former intervenors in this case, the Arizona Clean Energy Coalition who made a limited appearance at this hearing after having dropped out as an official intervenor party (Tr., pp. 354-360).

146. There are many contributors to the eventual cost and effectiveness with which the Palo Verde facility might deliver power. Some of these are the

capacity factor with which the plant actually delivers power both initially and throughout its lifetime, the unknown effects of energy conservation which looms more and more as a possible significant variable in energy demand forecasts, the percent discount factor for the money used by the utility companies to finance the facilities, and the cost of the uranium fuel to fuel the reactors. The Board felt that the most urgent variables needing clarification were the escalation rates for capital costs of construction and the availability of the uranium fuel to operate the reactors.

147. The most important evidence on escalation costs came from the Bechtel Power Corporation in the answer to one of the Board's questions addressed to the parties before the hearing started (App. Ex. 9). The testimony that was most pertinent at the hearing pointed out that Bechtel Power Corporation has some 60 active power plants and other similar projects involving some 100 generating units underway during the year 1975. At the time of the hearing the Bechtel analysis had just been completed which showed that, including labor, equipment and materials, the escalation rate was very close to 8% (Tr., p. 581), a number almost one-half of the escalation rate experience by the Bechtel Corporation in 1974. The projected escalation rates used for the Palo Verde facility were 10%, 8%, and 7% for the years 1975, 1976, and 1977 and beyond. The predicted 10% escalation came out to be 8% for 1975 and thus places credence in the escalation rates used by the Applicants for their cost estimates.

148. The availability of the uranium fuel for the Palo Verde facility is insulated from recent volatility during the early years proposed for operation in that the Applicants have a defined price commitment with Anaconda for $U_3O_8$ for sufficient uranium to make the initial loads for all three units (Tr., p. 641). Beyond that point, the price is to be established by the market. The Applicants hope that by that time a more stable and mature industry will have proven reserves better defined.

149. At the end of the 40 year maximum period for which a license to operate the nuclear power plant is issued, the operator must renew the license for another time period or apply for termination of the license and for authority to dismantle the facility and dispose of its component parts (FES, § 10.2.4). No definite plans for the decommissioning of the Palo Verde facilities have been developed. At the end of the station's useful lifetime, the Applicants will prepare a proposed decommissioning plan for review by the Commission. The plan will comply with the Commission's Rules and Regulations then in effect. Estimated costs of decommissioning to the lowest level are about one million dollars plus an annual maintenance charge in the order of one hundred thousand dollars (FES, § 10.2.4).

## G. ANALYSIS OF MONITORING DATA

150. Although the potential for significant environmental and health ef-

fects may be low at Palo Verde these are nevertheless possible because of the unique features of the cooling system. The Board suggests that care be taken to assure that the appropriate analyses and interpretations of the monitoring data required by the conditions of the Construction Permits be carried out at periodic intervals during construction and operation of Palo Verde. The review procedures of the Commission should be frequently invoked to assure that construction and operating procedures are appropriately modified, if necessary, to minimize environmental degradation and potential health effects.

## H. PROJECT 3–TRANSMISSION LINE

151. At the time the Palo Verde Application for Construction Permits was docketed (October 7, 1974), there existed plans for the construction in 1976 of a 345-kV line from the Greenlee Substation in eastern Arizona to a connection with the El Paso System in west Texas via New Mexico (FES § 3.8.3; Tr., p. 1056, App. Ex. 33). This first transmission line was not part of the Palo Verde facility. It was planned to run later a second 345-kV line from Greenlee to the Rio Grande terminal in New Mexico, all but a few miles of which would be on the same right of way. The second transmission line (195 miles) was included in the Palo Verde facility as Project 3 by the Applicants. Details as to Project 3 were examined and assessed by the Staff to the same extent as the other transmission line projects.

152. At the time of the hearing, the Board Chairman expressed concern that an orally proposed withdrawal of Project 3 by the Applicants and acquiescence by the Staff might raise questions during the Board's consideration which could have the effect of delaying the Initial Decision concerning the proposed Construction Permits. The withdrawal was proposed because APS had decided that the second transmission line, designated as Project 3, would be needed whether or not the Palo Verde facility was built. After considerable discussion (Tr., pp. 1052-1063), it was agreed by the Applicants that Project 3 would stay in the Application for Construction Permits and that a detailed description of it would be supplied as Applicants' Exhibit 33, which describes the complete selection criteria and process for both transmission lines.

153. In response to a Board question, as to whether the line was then under construction, counsel for Applicants stated that there was construction under way "but it was nothing to do with the project at all" (Tr., 1063). The Board accepted the statement of counsel. For purposes of this Initial Decision, the construction of Project 3–Transmission Line has been considered as work which will be performed under the proposed Construction Permits.

## IX. CONDITIONS

154. The conditions required by regulation and those customarily included

are set forth in the form of Construction Permits attached hereto as Appendix B.

155. In the Final Supplement to the Final Environmental Statement, Summary and Conclusions, pages iii and iv, the Staff lists the conditions which should be imposed for the protection of the environment. The Board concurs and said conditions are incorporated in the aforesaid Appendix B. Because of its concern lest the composition of the sewage effluent used as cooling water may undergo a change requiring additional safety measures, the Board has added to condition 3, E, (5) of Appendix B to this initial decision a requirement for monitoring such effluent. By Staff Exhibit 19, the Applicant has indicated a willingness to perform such monitoring.

156. In Supplement No. 1 to the Safety Evaluation Report, Section 2.4, reference is made to the commitment by Applicants in Amendment 15 to PSAR concerning ground water levels. This commitment is included as a condition for the protection of the public health and safety in the aforesaid Appendix B.

## X. DETERMINATIONS OF ULTIMATE ISSUES

157. The Board has considered all of the documentary and oral evidence presented by the parties on the issues in this proceeding. Based upon that review and upon the foregoing findings of fact and conclusions of law, the Board makes the following determinations on the ultimate issue involved in this case.

158. With regard to health and safety issues, pursuant to the Atomic Energy Act of 1954, as amended, the Board has determined that the Application and the record of the proceedings contains sufficient information and the review of the Application by the Staff has been adequate to support the affirmative findings proposed to be made by the Director of Regulation on items (1)-(3) below and negative finding proposed to be made by the Director of Regulation on item (4) below:

(1) Whether in Accordance with the provisions of 10 CFR 50.35(a):

(a) The Applicants have described the proposed design of the facilities, including, but not limited to, the principal architectural and engineering criteria for design, and have identified the major features or components incorporated therein for the protection of the health and safety of the public.

(b) Such further technical or design information as may be required to complete the safety analysis, and which can be reasonably left for later consideration, will be supplied in the Final Safety Analysis Report.

(c) Safety features or components, if any, which require research and development, have been described by the Applicants and the Applicants have identified, and there will be conducted, a research and development program reasonably designed to resolve any safety questions associated with such features or components.

(d) On the basis of the foregoing, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the Application for completion of construction of each unit of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

(2) Whether the Arizona Public Service Company is technically qualified to design and construct the proposed facility.

(3) Whether the Applicants are financially qualified to design and construct the proposed facility.

(4) Whether the issuance of the permits for the construction of Units 1, 2 and 3 of the facility will be inimical to the common defense and security or to the health and safety of the public.

159. With regard to the Commission's responsibilities under the National Environmental Policy Act of 1969 (NEPA) and in accordance with 10 CFR Part 51, the Board has determined that:

(1) The Application and the record of the proceedings contain sufficient information on NEPA matters, and the review by the Staff pursuant to NEPA, are adequate to support the issuance of construction permits for Units 1, 2 and 3 of the Palo Verde facility.

(2) The requirements of Section 102(2)(A), (C) and (D) of NEPA and 10 CFR Part 51 have been complied with in this proceeding.

(3) The Board has independently considered the final balance among conflicting factors contained in the record of the proceeding for the permits with a view to determining the appropriate action to be taken.

(4) After weighing the environmental, economic, technical and other benefits against environmental and other costs, and considering available alternatives, the Board has determined that the construction permits should be issued, subject to all of the conditions referenced or set out in Exhibit B hereof, and particularly the conditions for the protection of the environment set forth in Section 3.E of the said Exhibit.

## XI. ORDER

Based upon the Board's determination of Ultimate Issues and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Regulations, it is:

ORDERED that the Director of Regulation is authorized to issue to the Applicants (Arizona Public Service Company, Salt River Project Agricultural Improvement and Power District, El Paso Electric Company, Southern California Edison Company, Public Service Company of New Mexico, and Arizona Electric Power Cooperative, Inc.) permits to construct the Palo Verde Nuclear Generat-

ing Station, Units 1, 2 and 3, consistent with the terms of this Initial Decision, substantially in the form of Exhibit B hereto, it being understood that the permits for Units 2 and 3 will specify those units and will use the completion dates and the elevations above mean sea level shown in parenthesis in Exhibit B.

IT IS FURTHER ORDERED, in accordance with 10 CFR §§2.760, 2.762, 2.764, 2.785 and 2.786 that this Initial Decision shall become effective immediately and shall constitute, with respect to the matters covered therein, the final action of the Commission forty-five (45) days after the date of issuance hereof, subject to any review pursuant to the Commission's Rules of Practice.

Exceptions to this Initial Decision may be filed by any party within seven (7) days after service of this Initial Decision. Within fifteen (15) days thereafter [twenty (20) days in the case of the Staff], any party filing such exceptions shall file a brief in support thereof. Within fifteen (15) days of the filing and service of the brief of the Applicant [twenty (20) days in the case of the Staff], any other party may file a brief in support of, or in opposition to, the exception.

THE ATOMIC SAFETY AND
LICENSING BOARD

Kenneth A. McCollom, Member

Quentin J. Stober, Member

Hugh K. Clark, Chairman

Dated at Bethesda, Maryland
this 24th day of May, 1976.

[Appendices A and B are omitted from this publication but are available at the NRC's Public Document Room, Washington, D.C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-22

ATOMIC SAFETY AND LICENSING BOARD

Dr. Robert M. Lazo, Chairman
Dr. A. Dixon Callihan
Dr. Richard F. Cole

In the Matter of

Docket No. 70-1729

ALLIED-GENERAL NUCLEAR SERVICES, ET AL.

(Barnwell Fuel Receiving and Storage Station)

May 27, 1976

Upon motion by the applicants for an "order to Assure Similar [NRC staff] Treatment" of their fuel receiving and storage station license application (as to which the staff was requiring a full environmental review) and the application of the General Electric Company for an amendment to its operating license for an existing fuel recovery plant, expanding the capacity of the fuel storage pool at that plant (as to which the environmental review had been limited to issuance of a negative declaration and environmental impact appraisal), the Licensing Board rules that: (1) the two cases are not comparable since in the General Electric proceeding there had previously been a full review of the environmental impacts of fuel storage, whereas in this case there had been no such review; (2) it was within the staff's discretion under 10 CFR §51.5(a)(10) to determine that the applicants' license application could constitute a major Commission action significantly affecting the environment and requiring an impact statement; and (3) the applicant has suffered no injury.

Motion denied.

ATOMIC ENERGY ACT: RIGHT TO HEARING

The right to a public hearing on a license application does not depend on whether an environmental statement or a negative declaration is prepared by the NRC staff, but on whether petitions for intervention meeting the requirements of 10 CFR §2.714 have been filed.

## MEMORANDUM AND ORDER

On February 11, 1976, Allied General Nuclear Services, *et al.* (Applicants) filed "Applicants' Motion for Order to Assure Similar Treatment" (Motion)

requesting the Atomic Safety and Licensing Board (Board) to issue an order correcting the wrong done to the Applicants by reason of alleged discriminatory treatment by the NRC Staff (Staff). The discriminatory treatment is alleged to arise out of the manner in which the Staff treated the application for a license amendment by the General Electric Company to expand the capacity of its Morris, Illinois fuel pool (GE-Morris-NRC Docket No. 70-1308) and the application by the Applicants herein for a license to possess and store spent nuclear fuel at the Barnwell Fuel Receiving and Storage Station (Barnwell FRSS). Since the Staff decided to prepare a "Negative Declaration" and an "Environmental Impact Appraisal" for the GE-Morris amendment, Applicants contend that the Board should order future proceedings in the Barnwell FRSS matter to be conducted as if the Staff had published a Negative Declaration and Environmental Impact Appraisal for the Barnwell FRSS rather than the Final Environmental Statement (FES) issued by the Staff in January, 1976. Applicants base their request for corrective action by the Board on the premise that the environmental impacts from GE-Morris and the Barnwell FRSS are similar and that, in both cases, the Staff found those impacts to be negligible. The Staff and Environmentalists, Inc., one of the Intervenors in this proceeding, have filed responses arguing against the granting of the Motion. The Motion is denied.

In support of their Motion, Applicants have set forth in tabular form five pages of pertinent information showing that the considerations taken into account in the two situations appear to be parallel in all substantial respects and that, in fact, the problems considered with respect to the Barnwell FRSS appear to be of even lesser significance than those covered in the Staff's GE-Morris documents.

It is clear, however, that no discrimination was practiced by the Staff in its treatment of the GE-Morris and Barnwell FRSS applications. The GE-Morris application requested an amendment to an existing operating license for the Midwest Fuel Recovery Plant (NRC Docket No. 50-268)—a license which was issued only after the Staff had reviewed the environmental impacts of fuel storage and given the public full opportunity to involve itself in that evaluation. In this case, there has not been any previous environmental review by the Staff and the Board directed specifically to licensing spent fuel storage at Barnwell. The 10 CFR Part 70 application was filed as a separate matter in July, 1974. Thus, the preparation and circulation of an environmental statement gave the public and the parties their first opportunity to comment on the Staff's environmental review of the Barnwell FRSS as a separately operable facility.

Beyond this, the Staff complied with the regulations, particularly 10 CFR Part 51, in deciding to prepare an environmental impact statement for the Barnwell FRSS and a Negative Declaration for GE-Morris. The Commission's regulations provide at 10 CFR §51.5(a):

> (a) An environmental impact statement will be prepared and circulated prior to taking any of the following types of actions: . . .

(10) Any other action which the Commission determines is a major Commission action significantly affecting the quality of the human environment.

The Barnwell FRSS license application is for possession and storage of 400 MT of special nuclear materials pursuant to 10 CFR Part 70. The Staff noted the language of 10 CFR §51.5(a)(10), *supra.*, and determined that the Barnwell FRSS application could constitute a major Commission action significantly affecting the quality of the human environment. A complete review of the actual environmental effects was deemed necessary to determine the extent of environmental impact. The Draft Environmental Statement (DES) for the Barnwell FRSS was accordingly issued in May, 1975, and its availability was noticed in the *Federal Register* at 40 F R 23121. The DES concluded that no significant impacts to the environment would result from the proposed licensing action.

The GE-Morris application for an amendment to its existing license to possess and store special nuclear materials was filed several months after the full environmental assessment was begun for the Barnwell FRSS. As a result of the comprehensive environmental review conducted for the Barnwell FRSS application the Staff learned that no significant impacts to the environment would result from the licensing of a fuel storage facility. Thereafter, Staff reviewed the GE-Morris application and the operational monitoring data compiled by GE and concluded that an environmental impact statement was unnecessary because the Commission action would not significantly affect the quality of the human environment. Therefore, the Staff published a Negative Declaration and an Environmental Impact Appraisal pursuant to 10 CFR §51.7 and noticed its availability December 11, 1975 at 40 F R 57724.

Assuming however, that the Barnwell FRSS application should have been treated similarly to the GE-Morris application (i.e., that a Negative Declaration and an Environmental Impact Appraisal should have been issued instead of the FES), Applicants are not entitled to the relief suggested in the Motion; *viz.*, cancellation of the hearing or curtailment of the scope of the issues to be heard. The reason for this is that the right to a hearing does not depend on whether an FES or a Negative Declaration was prepared by the Staff, but on whether the petitions for intervention which have been filed meet the requirements of 10 CFR §2.714. Similarly, the issues to be heard are those which have been properly raised in accordance with the requirements of 10 CFR §2.714. Here, three petitions to intervene were filed as a result of the publication of the Notice of Opportunity for Hearing (40 F R 28506). Two of these petitions were granted. The Board's rulings on these petitions and the issues sought to be raised cannot turn, in any respect, on whether the Staff published an FES or a Negative Declaration.

By Memorandum and Order dated March 26, 1976, the Board requested

answers from Applicants and Staff to three specific questions relating to Applicants' Motion To Assure Similar Treatment:

QUESTION 1

Prior to the filing of the application here in question, what had been the Staff's policy with respect to safety and environmental review of similar applications? Were such applications made the subject of a notice of opportunity for hearing and, if so, what issues were stated for consideration?

QUESTION 2

Assuming *arguendo* that Applicants' allegations are true, it appears that Applicants' legal position is basically that the Staff's determination under 10 CFR §51.5(a)(10) was erroneous. The Staff has admitted as much. Procedurally, how should this legal position be advanced? Is the instant motion timely?

QUESTION 3

Under the same assumptions stated in 2. above, specifically, how does the Staff's erroneous determination injure Applicants? Is any such injury legally cognizable and therefore redressable? If so, what relief is appropriate?

Responses to the Board's questions by the Staff and the Applicants were filed on April 8, 1976. In addition, at the invitation of the Board, Environmentalists, Inc., filed a response on April 15, 1976.

The answers submitted by the Applicants fail to provide any basis for granting the relief requested. It is alleged that the Staff's erroneous[1] determination to prepare an environmental impact statement has injured Applicants. But the injury of which Applicants complain, is the creation of a situation which may have seriously misled the Board and the public into believing that there are important NEPA issues involved which might well justify a hearing. No such injury is perceived by the Board. Counsel for the Staff and Environmentalists, Inc. are quite correct in their response that the holding of a hearing on an application does not depend on whether an environmental impact statement or a Negative Declaration is prepared by the Staff. It depends upon whether petitions to intervene which meet the requirements of 10 CFR 2.714 have been filed. Similarly, the scope of issues for a hearing is not determined or affected by the Staff decision to prepare an environmental impact statement. It is determined by the Board ruling on contentions placed before it by Intervenors and the requirements of the Commission's regulations concerning the findings which the Board must make in rendering a decision. If Applicants are correct in their assertions

[1] In its response to the Board's questions, the Staff points out that it was only after months of thorough evaluation that the Staff concluded that the environmental impact statement it had prepared was unnecessary in this case.

that the contentions being proffered are of little substance, the Commission's regulations relating to summary disposition of issues on the pleadings (10 CFR 2.749) should provide the relief Applicants are seeking.

Applicants' Motion is denied.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman

Issued at Bethesda, Maryland
this 27th day of May, 1976

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-23

ATOMIC SAFETY AND LICENSING BOARD

Samuel W. Jensch, Chairman
Gustave A. Linenberger
Frederick J. Shon

In the Matter of

DOCKET NO. 50-334

DUQUESNE LIGHT COMPANY
OHIO EDISON COMPANY
PENNSYLVANIA POWER COMPANY

(Beaver Valley Power Station,
Unit No. 1)

May 28, 1976

Upon motion by applicants for further operating license authority, permitting additional low power testing and operation at power levels up to 35 percent of full power, the Licensing Board issues a supplemental initial decision, making findings of fact and law and authorizing the grant of such an operating license (subject to specified conditions).

Motion granted.

TECHNICAL ISSUES DISCUSSED: need for auxiliary river water intake system.

APPEARANCES

**Gerald Charnoff, Esq., Jay E. Silberg, Esq.** for Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, Applicants

**Albert D. Brandon, Esq., Jospeh A. Fricker, Jr., Esq.** for City of Pittsburgh, Pete Flaherty, Major, Environmental Coalition on Nuclear Power, Friends of the Earth, *et al.*, Intervenors

**W. W. Anderson, Esq., Theodore A. Adler, Esq.,** Deputy Attorneys General for The Commonwealth of Pennsylvania

**Michael W. Grainey, Esq.** for the Regulatory Staff of the U.S. Nuclear Regulatory Commission

# SUPPLEMENTAL INITIAL DECISION AUTHORIZING INTERIM OPERATION AT POWER LEVELS UP TO 35 PERCENT OF FULL POWER (OPERATING LICENSE)

Duquesne Light Company, *et al.* (Applicants) filed a motion on May 18, 1976 in accordance with 10 CFR Section 50.57(c) for further operating license authority permitting additional low power testing and further operations short of full power operation up to 35 percent of full power for the period ending June 30, 1976.

The motion and this Supplemental Initial Decision are based upon the evidence of record developed over a period of time which has resulted in two decisions, one reflected in 7 AEC 811, and the other issued on January 22, 1976 (NRCI-76/1, page 44), both of which are incorporated by reference for this decision. The latter decision authorized low power testing up to 5 percent of full power operations. This limit had been requested by the Applicants. The findings required by 10 CFR Section 50.57(a) and (c) and reflected in the January 22, 1976 decision are specifically incorporated by reference and are reaffirmed for this supplemental decision. This decision, however, will also address the concerns of the Board reflected in the evidentiary hearings held March 29 and 30th and additional findings will be made herein.

The Applicants' motion requested a hearing, which by stipulation of the Applicants, the Staff and intervenor City of Pittsburgh, as the active parties in the proceeding, was convened on May 21, 1976.

The May 21st hearing was preceded by an Atomic Safety and Licensing Board (the Board) letter and oral communications with all parties respecting the proposed findings and conclusions that had been submitted following evidentiary hearings which were held on March 29 and 30, 1976. The Board, in a consideration of the proposed findings, stated that it could not authorize full power operations in view of the absence of complete evaluation by the Staff of an alternate method of cooling (needed in the event a runaway gasoline barge crashed into the river water intake structure and exploded), and also in view of differences between the Staff and Applicants' separate probability analyses.

The additional presentation made at the May hearing by the Applicants was directed primarily to its proposal to secure another probability analysis, this to be prepared by an independent organization, in an endeavor to provide a comparison with the Staff and Applicants' analyses, and also to be based, if possible, upon a broader range of statistical data.[1] A second phase of Applicants' presen-

[1] Discussions respecting a broader range of statistical data included considerations of statistics from the Interstate Commerce Commission, and the successor agency having regulatory authority over barge lines, which may require reports prepared in accordance with a systematized procedure.

tation consisted of evidence regarding a third basis for reasonable assurance of safety for the water intake structure. This involved a proposal to station a river tugboat at the dock for the intake structure, which tugboat would be staffed with a crew on a 24-hour basis, ready to ward off any possible runaway barge and thus prevent any explosion. Applicants also presented evidence that a portable water supply system could be established with sufficient capacity to supply needed cooling water if the river intake structure were to be damaged in any manner.

With this presentation, Applicants urge that the record is sufficient for a full term full power license, or at least sufficient to permit granting the motion for a 35 percent power level license. The Staff relies upon its probability analysis and asserts that it has not fully evaluated the alternate cooling systems suggested by Applicants and thus cannot express any opinion that any one of the alternatives is adequate for needed cooling water. The Staff agreed, however, that some unquantifiable measure of additional safety was provided,[2] but lacking a complete evaluation of each alternative, the Staff adhered to its probability analysis as adequate for the Board to grant a full term license, and *a fortiori*, the Staff supports the motion for a 35 percent power level. Respecting the Applicants' proposed tugboat arrangement, the Staff stated that it could not quantify a credit for this system "... without first performing its own probability study using the parameters of the river characteristics immediately adjacent to the site proposed" for the tugboat.

The position of the intervenor, City of Pittsburgh, after both the March 29 and 30th and the May 21st hearings was that no license for either 35 percent or for full power should be granted until the Staff has completed evaluations of the several alternate cooling systems proposed by Applicants, and the City was not prepared to accept either of the probability analyses submitted by the Applicants and the Staff.

## AUXILIARY RIVER WATER INTAKE SYSTEM

The Staff has proposed, and Applicants have committed themselves to, the installation of an auxiliary river water system to be operative by December 31, 1976. The intent of the auxiliary system is to provide a backup to the primary intake system in the event that the primary river water system were damaged by

[2] The Staff view as expressed in its proposed findings was that: "... while the various bases proposed by the Applicants would improve the margin of safety, these bases by themselves individually or taken together would not be a sufficient justification in the Staff's opinion for operation at any power level unless the Staff's analysis of the low probability of the barge accident were also taken into account." At the hearing, the Board indicated that its determination would be inclusive of all considerations regarding safety of the proposed operation.

a postulated gasoline barge explosion. The Board's Initial Decision Authorizing Low Power Testing concluded that the plant could operate during the low power testing phase without said installation but "that prior to approving full power operation without such an auxiliary system, further clarification will be required."

At the evidentiary hearings on March 29 and 30, 1976, both the Applicants and the Regulatory Staff presented testimony, *inter alia,* in support of allowing full power operation without the auxiliary intake structure until December 31, 1976, based on the low probability of the postulated accident caused by the barge impact. The Staff's probability study concluded that the probability of such an accident is $1.8 \times 10^{-5}$ per year. The Applicants' analysis resulted in a risk figure of $2 \times 10^{-7}$ per year. The factor of 100 difference between the two analyses was explained in terms of several conservative factors imposed by the Staff. Since the higher probability is approximately equivalent (for operation during the balance of calendar year 1976) to a $10^{-7}$ per year risk over 40 years, the Staff has concluded that such operation (full power without auxiliary intake) is acceptable. The Board is thus faced with significantly different probability results from two reasonable and prudent parties and is unconvinced that the higher, more conservative value, necessarily represents the more reliable assessment.

At the same hearing, Applicants presented testimony describing an alternate shutdown procedure that could serve to bring the plant to a cold shutdown condition following the loss of the primary intake system in the event such loss occurred prior to the availability of the auxiliary system. This testimony indicated that there is an adequate inventory of circulating water to bring the plant to cold shutdown without access to additional river water. This system has been recently and successfully tested. However, it is functionally dependent upon the ability of the pump house and the cooling tower catch basin to survive the same explosion that is assumed to disable the intake structure. The Staff found that it does not have the information necessary to verify the integrity of these structures.

At the May 21st hearing, one of the Applicants' witnesses, experienced in handling Ohio River traffic in the vicinity of the Beaver Valley Power Station site, testified about the efficacy of using a tugboat (on 24-hour duty) to protect the main intake structure from impact by runaway barges, as proposed in Applicants' motion for operation at 35 percent of power. His testimony supported the feasibility of protecting the intake structure in this manner, namely, by intercepting and diverting any loose barges potentially threatening the intake. This testimony also provided the information that the overall river configuration in the vicinity of the Beaver Valley intake is such that an unattended barge drifting freely with the river current, which seldom exceeds five miles per hour even at high water conditions, would most likely not be carried into the intake struc-

ture.[3] Furthermore, the period from May until about December is typically a low water period of almost no water flow. This witness cited his 25 years of experience on the Ohio River to support his testimony that a runaway petroleum barge is an extremely rare event, one that he had never seen nor heard of.

Also at the May hearing in reference to the motion seeking authority for an increase in power level operations, the Staff reported that the lower decay heat generated by operation restricted to 35 percent of full power could be adequately cooled by available water in the demineralizer storage tank and the condenser hot well for an interval of about five days. Only after such an interval would supplementary water be required, and then only at the rate of 20 to 25 gallons per minute, to provide the requisite cooling. This could readily be done without the use of the cooling tower basin and the pump house. It would use the same system which the Staff's affidavit found suitable after test, except for its previous reliance on the cooling tower and the pump house. Duquesne Light is prepared to provide two standby pumps to supply the supplementary water in the event it is required. Such a system could be set up within four hours, well within the five-day interval available. While this system has not been fully reviewed by the Staff, the Staff agrees that it is feasible and that it adds to the assurance that, in the unlikely event of the postulated barge accident, the Applicants will have both sufficient time and capability to cool the facility adequately.

The Staff has concluded that, based upon its low probability analysis of the postulated barge accident, a full power license should be issued now with a condition that the auxiliary river water intake be completed by December 31, 1976, and, of course, it logically also supports issuance of the interim license requested now by Applicants. The Staff maintains, however, that the additional assurances provided by the foregoing testimony (on the river configuration, the presence of the tugboat, and the alternate cooling system now proposed, which have not been fully reviewed by the Staff) standing alone (*i.e.*, without taking into account the Staff's low probability analysis), would not be sufficient by themselves to license the facility.

The City of Pittsburgh alleges that, unless the Staff is able to change its barge accident probability result, the plant should not be licensed for operation at a higher power level.

It is the Board's view that the requisite finding of "reasonable assurance"

[3] Applicants furnished copies of U. S. Army Corps of Engineers navigation charts reflecting the site of the proposed construction. Official notice can be taken of these government records. The Board is not persuaded that the topography of the river bottom will serve as any retarding influence for a floating barge with a draft of approximately two feet. The surface drift may be different than channel current flow at the depths shown on the navigation charts.

that the activities to be authorized can be conducted without endangering the health and safety of the public requires the exercise of sound and balanced judgment. Such a finding does not require, as the Staff seems to suggest, that the Board take any single element in the presentation to determine whether it, standing alone, provides the necessary quantum of assurance. Nor does the standard of "reasonable assurance" require that the Board obtain from the Staff a precise and lower probability figure, as suggested by the City of Pittsburgh, before it can proceed with this license authorization. Indeed, the Board finds that from the foregoing evidence there is reasonable assurance that the plant can be operated at 35 percent of full power in the absence of an auxiliary intake structure without endangering the health and safety of the public. In addition, the Board finds that the Applicants have provided a satisfactory method, for an interim period until the auxiliary water intake structure is operative, to bring the plant safely to a cold shutdown condition in the event the river water intake structure is disabled.

## STEAM GENERATOR TUBE INTEGRITY

In *Northern States Power Company* (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-284 (NRCI-75/8, page 197), the Appeal Board raised certain questions concerning steam generator tube integrity. The Licensing Board, in light of the Appeal Board's concerns, decided to resolve these questions as to Unit 1 on the basis of the record being developed in this hearing. Testimony by Staff witnesses established a set of criteria to assure that steam generator tube integrity is not reduced below an acceptable level with adequate safety margins. These criteria, to be included in Technical Specifications for Unit 1, involve secondary chemistry monitoring, steam generator tube leakage limits, and tube inspection and tube plugging criteria. The Staff has recommended that secondary chemistry monitoring and control be governed by a Technical Specification establishing limiting conditions for operation and action to be taken in the event specified limits are exceeded during operation.

The Staff has proposed that steam generator tube leakage be governed by a Technical Specification establishing a primary-to-secondary leak rate of 1 gpm total in all steam generators and 500 gallons per day in one steam generator. The Staff has also recommended that the method of steam generator tube surveillance and inspection be governed by a specification establishing the eddy current examination method, equipment, and reporting requirements.

The tube plugging criteria require that tubes be plugged whenever the results of inspection indicate degradation greater than 40 percent of the original wall thickness. This requirement includes an allowance of 10 percent of the original wall thickness to account for possible further degradation before subsequent inspections. To confirm the adequacy of a tube plugging criterion of 40 percent (50 percent less 10 percent allowance for degradation before subsequent inspec-

tion), analyses have been conducted to show the appropriateness of, and margins available at the 50 percent degradation. Tube stress analyses under dynamic loading, fatigue effects, and static test programs were considered in the overall evaluation of the ability of the Unit 1 steam generators to withstand design basis accident conditions. This evaluation included the effects of tubing degraded to 0.025 inches thickness, which is approximately the 50 percent level, and of tubing containing cracks corresponding to the leakage level fixed in the Technical Specifications.

The specific conclusions reached are: (1) the analyses performed are adequate to demonstrate that the tubes can be expected to withstand all static and dynamic loads during all normal operating and postulated accident conditions, and (2) Inconel-600 tube specimens have been subjected to all loading conditions of interest including service exposure, to demonstrate that the largest cracks that could exist under the Staff's leak rate criterion would not increase in size under the full range of pressure and mechanical loads associated with a loss-of-coolant accident, steamline, or feedwater line rupture in conjunction with a nominal SSE. Although secondary water chemistry control is needed, condensate demineralization is not required as a safety matter since chemistry monitoring and condenser tube maintenance can limit the intrusion of impurities in the condensate, providing a high degree of protection against corrosive attack. Operation with condensate demineralization is, of course, also acceptable. Applicants testified at the December 1975 hearing that, should on-line reliability of Unit 1 be less than expected because of condenser inleakage, consideration would be given to installing demineralizers.

This Board finds that steam generator tube integrity can be assured by imposing the limitations set forth in the record.

## ASYMMETRIC BLOWDOWN FORCES

As set forth in the Initial Decision of January 22, 1976, the Board addressed the asymmetric forces acting on the reactor vessel supports as a result of a loss of coolant accident caused by a break in a cold leg near the vessel. The Board found that the probability of a LOCA arising from a break at that specific location was extremely small.

A detailed analysis was undertaken by Applicants to evaluate the asymmetric pressure and reactor vessel internals response loadings on the reactor vessel support system. This analysis showed that, with the exception of two of the six reactor vessel nozzle supports, all support components are within their design capacities. A further analysis of the two nozzle supports showed that while small local plastic deformation could occur in three of six cap screws, the resultant strain would be only 10 percent of the ultimate strain and that no failure would occur. The complete analysis showed that the reactor can be shut down and maintained in a safe condition even considering the postulated asymmetric loads.

The Staff has reviewed the Applicants' analysis and concluded that the analysis is correct, given the loads calculated by the Applicants. The Staff is still reviewing the internal and external pressure calculations that were used to develop the transient loads for the Applicants' analysis. In particular, the Staff has not completed its review of the newer codes used to generate internal differential pressure loads. On the basis of the review completed so far the Staff agrees that the actual loads will be less than the loads calculated by previous, more conservative codes, but it is not yet prepared to agree on the full amount of the reduction that the Applicants show. The Staff witness pointed out, however, that the analyses performed for the same reactor coolant system at the North Anna plant, using the more conservative codes, have shown that even if the reactor vessel supports did not resist the lateral or uplift forces, the vessel would undergo very small displacements, with no loss of integrity of the core support structures or other internals, no loss of control rod function, and only limited deformation of fuel. Since the possible differences in loads calculated by the Applicant and the Staff are not of the order of magnitude necessary to actually cause the supports to lose all resistance, the question is not one of essential systems remaining functional, but rather one of confirming design margin. Thus, the Staff is satisfied that the essential safety systems would not lose their ability to function under postulated accident conditions. The remaining aspects of the Staff's analysis is intended to confirm the magnitude of design margins. The Board concludes that the ability of safety systems to function has been adequately addressed.

The Board finds that the Unit 1 reactor vessel support system will withstand the postulated asymmetric blowdown forces; and that the plant will operate without undue risk to the health and safety of the public while the question of design margin is being resolved.

## FUEL ROD BOWING

The change in design from the 15 x 15 rod fuel element of previous Westinghouse plants to the 17 x 17 rod element of Beaver Valley Unit 1 has not been completely evaluated, particularly with respect to the potential effect of fuel rod bowing on the departure-from-nucleate-boiling ratio and on power peaking.

Pending its review of recently submitted Westinghouse information, the Staff has recommended the imposition of a design margin on the departure-from-nucleate-boiling ratio of 7 percent for the first fuel cycle and 9-1/2 percent at the end of the third fuel cycle to accommodate the effect of fuel rod bowing. These limits would only apply at power levels above 90 percent of full power.

The Staff has also recommended a conservative power peaking penalty of 1.73 percent to account for local power spikes possibly resulting from rod bowing and will require use of 2.19 as a value for peaking factor and for the operation of the axial power distribution monitoring system at power levels

above 93.7 percent of rated core power, when the core is below specified burnup levels.

The Board recognizes that the additional conservatism with respect to power peaking and use of the axial flux monitoring system results from the fact that the Staff has not completely evaluated Westinghouse's reports on the effect of bowing on power peaking. It is also recognized that a less restrictive set of conditions, on peaking factor and use of the axial power monitoring system, might be permissible if no penalty for bowing is needed. However, the Board finds that, pending completion of the Staff's review, imposition of the Staff's recommended limitations is appropriate.

## HYDROGEN RECOMBINERS

At the evidentiary hearing held on December 16, 1975, the Board requested that the Staff specifically review the design analysis of the hydrogen recombiners to verify that the seismic design calculations have been correctly and acceptably performed. The Staff has completed its review of the design calculations of the hydrogen recombiners and has determined that these calculations have been performed in an acceptable manner. The Board's questions on this issue are resolved.

## PREVENTION OF SPURIOUS OPERATION OF CERTAIN MOTOR-OPERATED VALVES

In Safety Evaluation Supplement No. 2, the Staff indicated that power lockout would be required for certain motor-operated valves in order to prevent spurious actuation of these valves during and following a postulated loss-of-coolant accident. The Applicants had proposed to meet this requirement by removing motive power from the valve motors at the motor control center. However, after a site visit on December 15, 1975, the Staff determined that the plant wiring was arranged in such a manner that valve position indication in the control room would be lost when power is removed at the motor control center. The Staff indicated that an acceptable alternative to power lockout at the motor control center would be one which utilizes a power isolation switch in the motor control circuit. The Staff also indicated that it required redundant valve position indication in the control room at all times for these valves as well as automatic indication of the grounding or shorting of at least one of the two contacts in the power isolation switch. The Staff proposes as a requirement that the installation of the valve control circuit power lockout, valve position indication and automatic indication of shorting or grounding be completed prior to issuance of an amendment to the operating license authorizing full-power operation. The Board finds that the Staff's assessment is appropriate and that these modifications must be completed before full-power operation is authorized.

## COOLANT LOOP ISOLATION AND TRANSFER OF ECCS FROM INJECTION MODE TO RECIRCULATION MODE

The operating license issued January 30, 1976 contained limiting conditions with respect to transfer of the emergency core cooling system from the injection mode of operation to the recirculation mode of operation and with respect to reactor coolant loop isolation. These conditions will continue with the issuance of full-power operation:

a. The reactor will not be operated with less than three coolant loops in operation at powers above 11 percent of rated power.
b. A design modification to automate transition of the ECCS from the injection to the recirculation mode will be proposed within nine months of issuance of the low power license and will be implemented before the start of the second fuel cycle.

## ENVIRONMENTAL QUALIFICATION OF BISTABLE ELEMENTS IN CIRCUITRY COMPONENTS

Certain control and shutdown circuitry components contain electronic bistable elements that are located in protected areas outside of the containment and will thus not be subjected to post-LOCA environmental conditions. However, these bistable elements had not been tested–prior to the most recent hearing–to determine their ability to operate during a seismic excitation.

Additional seismic testing is currently being carried out to verify that the bistables will retain their capacity to change state during the seismic excitation. Prior seismic testing verified the ability of the bistables to change state following a seismic excitation. Because bistables are electronic rather than electromechanical devices, and because of the prior testing, Westinghouse believes that bistables will function as designed during the seismic test. Westinghouse design engineers have been able to conceive of no effect of a seismic excitation which could prevent the bistables from functioning.

If a seismic event were to affect the ability of the bistables to function, it is more likely that the effect would be a spurious trip rather than a failure to trip. A single channel spurious trip would neither cause, nor prevent, a protective action. A protective action generated by a spurious trip would not result in an unsafe plant condition.

Based upon the satisfactory results of prior testing, the limited amount of additional testing, the absence of any identified safety issue which might be caused by inadvertent actuation, the relatively short period of time pending completion of the Staff's review of the test program results (May 1976), and the low probability of coincident incidents (LOCA plus seismic events) requiring bistable action, operation of Unit 1 pending completion of the supplemental test program is judged to be acceptable by Applicants and the Staff. Based upon its

own review of the foregoing, the Board finds these judgments to be acceptable under the circumstances that the Staff will require corrective action if the test results are unacceptable.

## ENVIRONMENTAL EFFECTS OF DISCHARGED CHLORINE

The Unit 1 Final Environmental Statement evaluated the impact of the Applicants' then proposed 0.1 mg/l discharge level of free residual chlorine. Subsequently, the Environmental Protection Agency (EPA) promulgated its Effluent Guidelines and Standards for the Steam Electric Power Generating Point Source Category, which established a limit of 0.2 mg/l for average free available chlorine. A National Pollution Discharge Elimination System permit has been issued by EPA for the Unit 1 facility, which permit includes the 0.2 mg/l limit.

Applicants will inject chlorine in the cooling water system on an intermittent basis. With dilution in the Ohio River, the Chlorine levels will be reduced by a factor of eight beyond a four-acre area. Chemical reactions would further reduce chlorine concentration. The 0.2 mg/l limit, applied at the cooling tower blowdown (*i.e.*, prior to dilution and chemical reduction), compares favorably with levels recommended in Brungs' authoritative study of the effects of chlorine discharges. Brungs concluded that for intermittent chlorination, a limit of 0.2 mg/l is adequate to protect aquatic biota. The 0.2 mg/l limit is somewhat conservative in that it falls below levels reported as toxic. Although chloramine levels are not expected to be greater than those associated with a 0.1 mg/l free residual chlorine limit, chloramine levels (as well as those for free residual chlorine) will be monitored to assure that actual limits are consistent with those predicted and that any impact is acceptable. The higher limits authorized by the NPDES permit will not have significant environmental impacts beyond those which the Staff previously evaluated, and found acceptable, at the 0.1 mg/l level.

The Board thus finds that the environmental impact of chlorine discharges has been adequately evaluated and will be insignificant.

## QUALITY ASSURANCE FOR UNIT 1 OPERATION

Testimony by the Vice President of Operations of Duquesne Light Company set forth management's close personal involvement with, and commitment to, operational quality assurance for Unit 1. The long and varied experience of Duquesne's management with all phases of plant operation gives assurance that proper management attention and understanding will be given to Unit 1 operation. The operational quality assurance function will be carried out with Duquesne personnel to the greatest extent possible, thus allowing better control and a better end result.

The Board is satisfied that the plant is ready for operation from a quality assurance standpoint.

## FINDINGS AND CONCLUSIONS OF LAW

The proposed findings submitted by the Applicants and the Staff have been substantially accepted with the modifications reflected in the foregoing decision and thus specific rulings have not been made for each such proposed finding. The motion for authority to operate at 35 percent power level is granted without limitations as to time in view of the possibility of time delay in the completion of tests.

The Board has considered the submittals from intervenor City of Pittsburgh. No other intervenor has filed any proposals. The City filed one proposed finding of fact and one proposed conclusion of law following the March hearings. The City's proposal of fact contains some aspects of argument as well as recitals with references to the transcript of matters presented in the hearings. The Board accepts the proposed finding of fact insofar as the evidentiary matters are accurately reflected, otherwise the Board rejects the argumentative portion. The City's conclusion of law filed after the March hearings that a full power license must be denied is accepted for reasons shown in this Supplementary Initial Decision. Following the May 21 hearing, the City submitted a proposed order concluding that the motion for 35 percent power level authority should be denied for the reason that the Staff probability study is inadequate, and because the additional safeguard proposals of the Applicants, including the tugboat standby arrangement and the portable additional water supply have not been evaluated by the Staff. The Board rejects and denies this proposed order by the City upon the basis that it is not based upon reliable, probative and substantial evidence and for the further reasons set forth in the Supplementary Initial Decision herein. The City's post-May 21 submittal also requests service on it, with a right to seek a further hearing, respecting the expanded probability study that Applicants are having prepared. These requests are granted.

Based upon the foregoing findings of fact and the entire evidentiary record in this proceeding, the Licensing Board has determined that all matters in controversy, particularly those referenced in the Board's letter of March 11, 1976 have been satisfactorily resolved, except with respect to the matters in reference to Applicants' request for a full power license. These matters will be considered in a subsequent decision after the further probability study has been presented by the Applicants. The Licensing Board therefore makes the following findings based upon the record of this proceeding with regard to the above-referenced matters in controversy:

(1) Construction of the facility has been substantially completed in conformity with the construction permit and the application as amended,

the provisions of the Act, and the rules and regulations of the Commission; and

(2) The facility will operate at the 35 percent power level in conformity with the application as amended, the provisions of the Act, and the rules and regulations of the Commission; and

(3) There is reasonable assurance (i) that the activities at the 35 percent power level authorized by the operating license issued pursuant to this Supplementary Initial Decision can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the regulations in this chapter; and

(4) The Applicants are technically and financially qualified to engage in the activities authorized by the operating license in accordance with the regulations in this chapter; and

(5) The applicable provisions of Part 140 of this chapter have been satisfied; and

(6) The issuance of the operating license will not be inimical to the common defense and security or to the health and safety of the public.

WHEREFORE, IT IS ORDERED, in accordance with the Atomic Energy Act of 1954, as amended, and the Rules of Practice of the Commission, and based on the findings and conclusions set forth herein, that the Director of Nuclear Reactor Regulation is authorized to issue an operating license consistent with the terms of this Supplementary Initial Decision up to the limit of 35 percent of full power.

IT IS FURTHER ORDERED, in accordance with Sections 2.760, 2.762, 2.764, 2.785, and 2.786 of the Commission's Rules of Practice, that this Supplementary Initial Decision should be effective immediately and shall constitute the final action of the Commission subject to review thereof under the above-cited rules. Exceptions to this Supplementary Initial Decision may be filed by any party within seven days after the service of this Supplementary Initial Decision. A brief in support of the exceptions shall be filed within fifteen days thereafter (twenty days in the case of the Staff). Within fifteen days after the service of the brief of appellant (twenty days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

ATOMIC SAFETY AND
LICENSING BOARD

Gustave A. Linenberger, Member

Samuel W. Jensch, Chairman

Mr. Shon concurs in this decision. At the present time, he is necessarily absent in the hearing of another case. Mr. Shon has attended all evidentiary

sessions and has fully participated in all of the matters herein determined. He has authorized this expression of his concurrence in the results here reached.

Issued:
May 28, 1976
Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-24

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket No. 70-1729

ALLIED-GENERAL NUCLEAR SERVICES
ALLIED CHEMICAL NUCLEAR PRODUCTS, INC.
GENERAL ATOMIC COMPANY

(Barnwell Fuel Receiving and Storage Station)

May 28, 1976

The Licensing Board rules on the admissibility of the contentions proposed by various intervenors, accepting certain of them and rejecting others.

## MEMORANDUM AND ORDER RELATIVE TO ADMISSIBILITY OF PROPOSED CONTENTIONS

In its Memorandum and Order of March 25, 1976 (LBP-76-12, NRCI-76/3, 277), this Licensing Board ruled on certain petitions for leave to intervene which had been filed in response to the Nuclear Regulatory Commission's Notice of Opportunity for Hearing in the captioned proceeding (40 F R 28506, July 7, 1975). In that Order, the Board granted the petition to intervene filed on behalf of the 221 Pickens Street Organization (Pickens Street), denied the petition to intervene filed by the American Civil Liberties Union of South Carolina, and granted the petition of the State of Georgia to participate in the evidentiary hearing pursuant to the provisions of 10 CFR §2.715(c).

In a previous Memorandum and Order (LBP-75-60, NRCI-75/10, 687) issued on October 1, 1975, the Board granted the petition for leave to intervene filed on behalf of Environmentalists, Inc., *et al.* (Joint Intervenors) and admitted them as a party to this proceeding. At the same time a request by the State of South Carolina to participate as an interested state pursuant to 10 CFR §2.715(c) was granted.

The purpose of this memorandum and order is to rule on the admissibility of the individual proposed contentions which have been filed by the intervenors in this proceeding.

### CONTENTIONS SUBMITTED BY ENVIRONMENTALISTS, INC., ET AL.

On August 5, 1975, Mrs. Ruth S. Thomas, President of Environmentalists, Inc., filed a timely petition for leave to intervene on behalf of Environmentalists,

Inc., South Carolina Environmental Action, Inc., and Piedmont Organic Movement. The petition contained some sixty-five numbered contentions. Following the receipt of answers filed by Applicants and the NRC Staff on August 15, 1975, and September 5, 1975, respectively, the Board issued its October 1, 1975 Order referred to above in which it admitted Environmentalists, Inc., *et al.* as Joint Intervenors in this proceeding and ruled on the admissibility of a single contention. Thereafter, on October 11, 1975, Applicants filed a lengthy memorandum relating to the proposed contentions of Joint Intervenors.

Following a prehearing conference held in Columbia, South Carolina on October 16, 1975, Environmentalists, Inc., *et al.* on November 7, 1975, filed its "Revision of Joint Intervenors' Contentions and Memorandum in Support." Some of the original sixty-five contentions were rewritten in an effort to further clarify the issues in controversy. Others were withdrawn or incorporated into other contentions.

On November 18, 1975, Applicants filed a memorandum relating to the Joint Intervenors' Revised Contentions in which Applicants urge the Board to reject all of the proposed contentions based upon a wide range of objections not repeated here. The Staff on the other hand, finds most of the proposed contentions to be admissible in whole or in part. (Staff's Answer to Revision of Joint Intervenors Contentions filed by the Staff on November 21, 1975).

The Licensing Board has studied the Revised Contentions and all of the responses thereto. Specific rulings on the individual proposed contentions are set forth below:

## INDIVIDUAL CONTENTIONS

The following contentions meet the requirements of 10 CFR §2.714 and are allowed:

Contentions 5, 6, 8, 11, 14, 23, 25, 30, 33, 37, 46, 47(c) 47(d), 47(e), 55 and 56.

The contentions set forth below are not accepted:

Contentions 1, 2, 4, 10, 12, 13, 15, 16, 19 20, 22, 24, 26, 28, 29, 32, 35, 41, 43, 45, 47(a), 47(b) 49, 51, 53, 57, 58, 63(b) 63(c), 65(a) and 65(b).

Contentions which have been incorporated into contentions listed above or have been withdrawn are:

Contentions 3, 7, 9, 17, 18, 21. 27, 31, 34, 36, 38, 39 40, 42, 44, 48, 50, 52, 54, 59, 60, 61, 63(a) and 65(c).

CONTENTION 1

Joint Intervenors contend that the alternative of limiting generation of spent fuel must be discussed in this proceeding and that the BFRSS licensing action cannot proceed until an impact statement on this issue has been circulated by the Commission. The contention is rejected for the reason that it raises issues outside the scope of this proceeding.

On September 16, 1975, the Commission published a "Notice of Intent to Prepare Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Reactor Fuel" (40 F R 42801) in which it advised that the alternative of limiting or stopping the generation of spent fuel would be considered in its Generic Environmental Impact Statement. The notice also provided guidelines for interim licensing of spent fuel storage pools. Since the Commission will consider the alternative which Joint Intervenors assert herein and since the Commission is permitting interim licensing of fuel storage facilities prior to completion of the Generic Environmental Impact Statement, this contention is now outside the scope of this proceeding.

CONTENTION 2

The Board agrees with the Staff that paragraph 2 sets forth a contention which meets the particularization requirements of 10 CFR §2.714. However, the Joint Intervenors' claim that the construction permit for the Separations Facility was not valid is not only irrelevant to this proceeding but is also plainly incorrect as a matter of fact and of law. The application for a construction permit covering the Separations Facility for the Barnwell Nuclear Plant was filed in November 1968 with the Atomic Energy Commission, Docket No. 50-332. Thereafter, in accordance with NEPA requirements, the Atomic Energy Commission Staff on October 15, 1970 issued its Detailed Statement on The Environmental Considerations. Due notice having been given in the *Federal Register* (35 F R 14170; September 5, 1970) and elsewhere, a public hearing on the construction permit was held by the Atomic Safety and Licensing Board in Barnwell on October 20 and 21, 1970. The Initial Decision for the granting of the construction permit was handed down by the Licensing Board on December 18, 1970 (4 AEC 483), and on that date the construction permit was issued by the Commission. Construction of the Separations Facility accordingly began in January 1971.

After the July 1971 decision by the Court of Appeals in the Calvert Cliffs case,[1] the Commission revised its procedures relating to the manner in

[1] *Calvert Cliffs' Coordinating Committee, Inc.* v. *AEC,* 449 F.2d 1109 (D.C. Cir. 1971).

which NEPA should be complied with, and made provision for certain supplemental environmental consideration in cases where construction permits were already outstanding. In accordance with the revised procedures, the Applicants, in October 1971, submitted to the Commission various categories of information as to why the construction permit for the Separations Facility at Barnwell should not be suspended, and in November 1971 submitted an updated Environmental Report. On December 1, 1971, the Commission notified the Applicants of the basis on which the Commission had determined that the construction permit was not to be suspended pending completion of environmental review. The decision to this effect was promptly published in the *Federal Register*, accompanied by a notice that persons who disagreed with the decision could request a hearing on the matter (38 F R 23333; December 8, 1971). No one filed any objection to the decision. Construction of the Separations Facility accordingly proceeded.[2]

On November 9, 1973, the Commission published in the *Federal Register* a notice concerning considerations related to a supplemental NEPA hearing on the construction permit. This led to the filing of petitions to intervene by the present Joint Intervenors. On April 24, 1974, the Joint Intervenors submitted their first revision of their environmental contentions. Coincidentally on the same date, the Commission published a notice in the *Federal Register* of the possibility of a hearing on the operating license. The Joint Intervenors filed petitions to intervene in the operating license proceeding as well, setting forth no new contentions but reiterating those which they had made for the construction permit supplemental hearing. After a prehearing conference held in Barnwell on May 29, 1974 the Licensing Board issued its order of June 11, 1974 (7 AEC 1015), accepting the Joint Intervenors' Contentions 1 through 6 as contentions to be determined in the hearing. By order of July 10, 1974 the Licensing Board granted the Joint Intervenors' intervention in the operating license proceeding, with the same contentions being accepted. The Board's order also consolidated the supplemental NEPA hearing on the construction permit with the hearing on the operating license. Hearings on the consolidated proceedings commenced in Barnwell on September 10, 1974, and are now in recess.

## CONTENTION 4

This Contention is too vague. It does not set forth a contention with the specificity required by 10 CFR Section 2.714 nor does it identify, with the

[2]See *Allied General Nuclear Services, Et Al.* (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, NRCI-75/10 at 678: "... that issue is not merely stale but moot."

particularity required, the manner in which the statement in paragraph 3(b) "is not supported" by the discussions in Sections 5.2 and 5.4 of the Draft Environmental Statement.

CONTENTION 10

This contention is too vague. Moreover, it is an improper expansion of the prior version of the contention, beyond the reasonable limits of what the privilege of amendment was intended to permit.

The contention's suggestion that the assessments of the environmental effect to the local population resulting from normal operation of the BFRSS should be based solely on 10 CFR Part 20 limits, rather than on predicted actual limits, is directly contrary to the Commission's regulations. 10 CFR §51.23(d) states, "In determining the contents of an environmental impact statement, the Commission shall be guided by the Council on Environmental Quality Guidelines on Preparation of Environmental Impact Statement, 40 CFR §1500.8." In turn, 40 CFR §1500.8(a)(3) sets forth that one of the points to be contained in environmental statements is "The *probable* impact of the proposed action on environment" [emphasis added].

In addition, the claim that other nuclear facilities have experienced releases higher than those projected is not only too vague, but is in any event meaningless in the absence of some showing of a direct relationship and similarity of design and proposed operation.

To the extent that the Contention now also seeks to interject transportation matters, the comments stated below in connection with Contention 47(b) are also applicable.

CONTENTION 12

Joint Intervenors' Contention 12 questions the Staff's conclusion that the net socioeconomic effect of the BFRSS is beneficial. The Board is of the opinion that socioeconomic effects of proposed licensing actions are not always appropriate subjects for environmental review. The questioned conclusion of the Staff is set out in two paragraphs of the DES (and FES). Basically, the Staff has attempted to measure the input to the local economy of construction and operational employees and the corresponding drain on local services.

In *Maryland-National Capital Park and Planning Commission v. U.S. Postal Service*, 487 F.2d 1029 (D.C. Cir. 1973) the Court had occasion to consider whether such effects should be treated in an environmental impact statement. The proposal at issue involved a bulk mail facility and a concern was

voiced by local authorities concerning the possible influx of a large number of low income workers. The Court stated that "[c]oncerned persons might fashion a claim, supported by linquistics and etymology, that there is an impact from people pollution on 'environment,' if the term be stretched to its maximum. We think this type of effect cannot fairly be projected as having been within the contemplation of Congress" (487 F.2d at 1037).

Accepting the existence of a completed fuel storage pool constructed under a valid permit, and considering the nature of the instant proceeding, the issuance of a short-term operating license, the Board is of the opinion that the detailed consideration and listing of socioeconomic impacts as specified in this proposed contention is untimely and, additionally, would be unproductive. Accordingly, Contention 12 is disallowed.

CONTENTION 13

This contention appears to be an extension of Contention 1 and is rejected for the reason that an evaluation of net energy gain or loss from nuclear reactors is beyond the scope of this proceeding. The contention alleges that the Staff failed to produce data showing that disallowance of operation of the BFRSS is not a viable alternative. The data which Joint Intervenors suggest is pertinent, namely a national energy study to determine the net energy gain or loss from operating reactors, is not relevant to this proceeding since it would require consideration of continued operation of previously licensed reactors rather than the licensing of a storage pool.

CONTENTION 15

Joint Intervenors' Contention 15 attacks the DES for its failure to quantify the time required for expansion of existing reactor spent fuel storage pools so as to provide a basis for the conclusion that such expansion requires too much time to complete.

This contention ignores the finding by the Commission that "...the spent fuel pools at a number of reactors may soon be filled, and still other reactors will have their pools filled before the end of 1978. Accordingly, even if limited reprocessing should begin in late 1976, there would still be a shortage in spent fuel storage capacity." *Intent To Prepare Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel,* September 10, 1975, 40 F R 42801, September 16, 1975. In this notice, the Commission further found that this situation could eventually force reactors to shut down for lack of an available storage facility for the last fuel core. It is self-evident that any increase in the

storage capacity of existing reactor storage pools will require time to complete. It is also self-evident that the BFRSS is now complete and ready to operate. Consequently, Contention 15 is denied as frivolous.

## CONTENTION 16

In Contention 16, Joint Intervenors assert that "Applicants and Staff have failed to properly consider..." certain alternatives. Contention 16(a) proposes the alternative of locating the BFRSS at a Nuclear Center Site, or "...a site more centrally located and of greater seismic stability." At present, there are no specific plans to establish Nuclear Centers. Further, the BFRSS is a completed facility. For these reasons together with the reasons relating to proposed Contention 15, this alternative is not reasonable and therefore need not be considered. To the extent that the proposed contention is concerned with seismic matters, it is vague and unsupported.

Proposed Contention 16(b) urges the consideration of a completely independent facility devoted solely to the storage of spent fuel. This contention overlooks the purpose of the application here at issue, to provide an interim storage facility. The license term is for no more than five years. If at the end of that period the Separations Facility is not operating, it will be necessary to address the future of the BFRSS in another licensing proceeding. At that time, should the Applicants seek authority to continue the operation of the BFRSS indefinitely, this alternative would be appropriate for consideration. In view of the scope and purpose of the proposed license, the alternative of a completely independent facility is not reasonable and need not be considered at the present time. For the same reasons, proposed Contention 16c. (which urges consideration of the alternative of removing the spent fuel to a permanent storage facility at the end of five years in the event the Separations Facility does not operate) and proposed Contention 16d. (which urges consideration of the alternative of permanent storage of fuel in the BFRSS under the same circumstances) are also unreasonable and need not be considered at this time.

## CONTENTION 19

Proposed Contention 19 attacks the DES for its purported failure to consider alleged uncertainties in the demand for spent fuel storage because of cutbacks in construction and operation of nuclear reactors. This assertion ignores the finding of the Commission discussed in regard to proposed Contention 15. Consequently, it is frivolous and is rejected.

CONTENTION 20

This contention is too vague. No basis has been advanced for the assertion that the costs associated with occupational exposure have not been "adequately" addressed.

CONTENTION 22

The contention is not admissible. The statement referred to in paragraph 10.2.2 of the DES reads as follows: "Operation of the BFRSS as part of the BNFP complex will be an important part of the nuclear fuel cycle program." This is a simple statement of fact, not open to controversy, in the event that the Separations Facility in due course is licensed and begins to operate. But apart from this statement, the DES does not rely upon operation of the Separations Facility during the period of interest. It is accordingly evident that the allegation is frivolous.

CONTENTION 24

This contention which states that Applicants and Staff have improperly based their evaluation on the assumption that nuclear fuel will be reprocessed at Barnwell is not admissible. The Commission in its November 12, 1975 announcement concerning GESMO has specifically detailed the criteria applicable to the interim licensing of the Barnwell Separations Facility. The Commission's September 16, 1975 Notice concerning spent fuel storage also detailed the criteria necessary to license spent fuel storage pools, among which is the requirement that the independent utility of the storage pool be analyzed. The contention has, therefore, been rendered moot. Any redetermination or reconsideration of the Commission's November 12, 1975 announcement is beyond the jurisdiction of this Board. Consideration of whether or not reprocessing is cost-justified from an economic viewpoint is outside the scope of this proceeding. Moreover, as to the claim that a license period of five years is improper, it is evident that some reasonable period of operation had to be assumed for the operation of the BFRSS under an interim Part 70 license. A period of five years is plainly a reasonable assumption related thereto; and if the period turns out to be shorter, the Part 70 license will then be superseded by the Part 50 operating license for the Separation Facility. In the event that the five-year period did not turn out to be sufficient, then there would be available the possibility of applying for an appropriate amendment to reflect whatever changes of circumstances might have occurred.

CONTENTION 26

Consideration by the Board of Contention 26 would be inappropriate in the light of the Commission's expressions and determinations in its November 12, 1975 announcement concerning GESMO (40 F R 53056–published November 14, 1975).

CONTENTION 28

This contention is rejected for the reason that it does not set forth a contention with the specificity required by 10 CFR §2.714. Joint Intervenors have not set forth any reasonable basis for consideration of the alternative suggested.

CONTENTION 29

The contention is outside the scope of this proceeding. The supporting material filed in Docket No. 70-1729 clearly indicates that the spent fuels to be stored at the BFRSS under the Part 70 license being applied for are limited to those which, when they went into the reactor, contained only low-enriched uranium. (Technical Description, Section 14.2.1.3(1), page 14-5.)

CONTENTION 32

This contention is too vague to be admissible. Joint Intervenors have not indicated in any way or given any particularization as to what operations might be subject to the use of mock-up equipment, how they might be used, and what the basis is for presuming that any reduction of exposures could result thereby.

CONTENTION 35

The contention is rejected. Joint Intervenors have not made a particularized showing as to why a major hypothesized accident such as the core meltdown accident defined for nuclear reactors in Footnote 1 to 10 CFR §100.11 needs to be considered, or ought to be considered, for BFRSS operations. Mere conclusory assertions as to such a matter do not suffice to create an issue for adjudication. Indeed, it is evident that in the case of the BFRSS there is not involved an operating reactor with a reactor's high inventory of active, short-lived, volatile fission products; or with the stored energy source (of high temperatures and high pressures) inherent in reactor operations.

CONTENTION 41

The contention is vague. Moreover, the issue raised is beyond the scope of this proceeding for the same reason assigned to the rejection of Contention 26 above.

CONTENTION 43

This contention does not meet the specificity requirement of 10 CFR §2.714. The claim that delays and resulting costs can be expected from "unanticipated economic and technical problems similar to those experienced at other nuclear facilities having receiving and storage pools," is not only too vague, but is meaningless in the absence of some showing of a basis for the statement.

CONTENTION 45

This contention is rejected for the reason that it does not set forth a contention with the specificity required by 10 CFR §2.714. Joint Intervenors have not set forth any reasonable basis for consideration of the alternative suggested.

CONTENTION 47(a)

This contention is rejected because of vagueness and a lack of adequate particularization.

CONTENTION 47(b)

This contention was ruled by the Board, in its Memorandum and Order dated October 1, 1975, to be an allegation adequate to entitle the Joint Intervenors to intervene in this proceeding. The Board's view was in part an outgrowth of the fact that a comparable contention by the Joint Intervenors had been accepted by the Board as an issue in Docket No. 50-332 and that the contention had not yet been definitely disposed of in Docket No. 50-332. However, the Commission's GESMO announcement of November 12, 1975, referred to above, calls for a reassessment of the Board's earlier decision on this matter and that Contention 47(b) should now be rejected. The matters asserted in this contention are outside the scope of the present proceeding. This is particularly true in light of the fact that the subject has already been considered in a generic proceeding, is evaluated in a generic environmental survey statement (WASH-1238), and is codified in regulations in Table S-4 of 10 CFR §51.20. As such, it would be especially

inappropriate for the subject to be considered in this individual licensing proceeding. To the extent, if any, that the Joint Intervenors could challenge the basis for such Table under 10 CFR §2.758, they normally must do so only in a discrete proceeding related to that subject and in any event only be a genuine showing of special circumstances which they have in no way shown.

CONTENTION 49

This contention must be rejected for the reason that it presents a generic issue beyond the scope of this proceeding. Joint Intervenors contend that no further licensing actions can be justified under NEPA until the NRC demonstrates that a nuclear economy would yield a positive cost-benefit balance based on the long-term storage of spent fuel. This contention appears to raise economic and social questions which are more appropriately addressed by the legislative branches of federal, state and local governments. Consideration by the Board of this contention would also be inappropriate in the light of the Commission's expressions and determinations in its September 16, 1975 Notice in the *Federal Register* referred to above.

CONTENTION 51

The matters asserted in this contention are outside the scope of the present proceeding which concerns only a separately operable fuel storage facility. The contention presents an issue already included in a generic environmental statement (WASH-1238) and codified in the regulations under Table S-4 to 10 CFR Part 51. Under 10 CFR §2.758, Joint Intervenors can challenge the information contained in Table S-4, but must show that special circumstances exist for considering such a challenge in a discrete proceeding. Joint Intervenors have not shown such circumstances.

CONTENTION 53

The first part of Contention 53 is related to Contention 51 and the ruling set forth above in response to that Contention is also applicable here. Moreover, WASH-1238, which has been codified into the regulations in Table S-4 of 10 CFR §51.20, clearly indicates the radiation levels to which people along the transportation routes could be subjected.

As to informing people concerning releases during normal and abnormal operations at the storage area, it should be noted that results of these will be a matter of public record, and must be reported to the NRC through operating reports. All applicable reporting regulations must be complied

with, and if the contention is intended to challenge the adequacy of the reporting regulations, then no proper basis has been shown and in any event this is not an appropriate proceeding for doing so.

CONTENTION 57

Joint Intervenors' Contention 57 asserts that hearings and an initial decision are unlawful until the Staff has adequately addressed the five factors listed in the Commission's September 10, 1975 order in an environmental impact statement circulated to appropriate state and federal authorities. The proposed contention further asserts the need for the Staff to address three questions relating to the potential effect that a decision in this proceeding may have on future options regarding the back end of the fuel cycle and the licensing proceeding relating to the separations facility.

The Board notes that the Staff has addressed, in the FES, the five factors referred to in the September 10 Notice. Further, the Board notes that the DES was issued prior to September 10, 1975. Thus, proposed Contention 57 would require recirculation of the FES as a result of a happenstance of timing. We can perceive no circumstances in this proceeding which would require a result different from that reached in *Allied-General Nuclear Services, et al.*, (Barnwell Nuclear Fuel Plant Separations Facility) ALAB-296, NRCI-75/10, 671 and *Philadelphia Electric Company* (Limerick Generating Station, Units 1 and 2), ALAB-262, NRCI-75/3, 163.

Insofar as proposed Contention 57 sets forth additional factors which the Staff must consider, we must again point out that the license here sought is for an interim period only. No basis has been set forth for consideration of these additional factors. In the absence of some showing by Joint Intervenors as to the relevance of the enumerated factors to this proceeding, the Board must rule them inappropriate for consideration. Contention 57 is accordingly rejected.

CONTENTION 58

This contention is not admissible on the ground that it is beyond the scope of this proceeding. The Commission, in its September 16, 1975 *Federal Register* Notice detailed the factors to be taken into account when licensing spent fuel storage pools. Joint Intervenors here contend that the Commission may not license such storage facilities, until waste management questions are resolved. Joint intervenors may petition the Commission under 10 CFR § 2.800 *et seq.* for a recission of the September 16, 1975

Notice or institution of additional rule-making proceedings to resolve their concerns, but such an inquiry is clearly outside the scope of this proceeding. The ruling set forth above relating to Contention 57 is also applicable here.

CONTENTION 63(b) and 63(c)

These contentions are outside the scope of the present proceeding, and in any event consideration of them by the Board would be inappropriate in the light of the Commission's expressions and determinations in its September 16, 1975 Notice in the *Federal Register,* referred to above and in view of the Commission's expressions and determinations in its November 12, 1975 announcement concerning GESMO, referred to above. Moreover, these contentions appear to overlap and to be a repetition of portions of various other contentions including Contentions 26 and 41. Accordingly, the rulings set forth above relating to those contentions are also applicable here.

In addition, Contention 63(c) is a direct attack upon the Commission's regulations which set forth upper-limit occupational whole-body radiation standards, and is plainly outside the scope of this proceeding.

CONTENTION 64

[There is no Contention 64 listed.]

CONTENTION 65(a) and 65(b)

Both contentions are rejected because they are unduly repetitious of preceding/rejected contentions. Paragraph 65(a) alleges that the Staff failed to adequately explore a stated alternative to the BFRSS. This issue is the same as that raised by Paragraph 16(b). Paragraph 65(b) alleges that the Staff failed to consider the safety and environmental impacts of non-BFRSS alternatives such as "compacting" reactor fuel pool storage. This issue is the same as that raised by Paragraph 15.

CONTENTIONS SUBMITTED BY THE 221 PICKENS STREET ORGANIZATION

By its Memorandum and Order dated March 25, 1976, the Licensing Board, among other things, determined that the 221 Pickens Street Organization ("Pickens Street") has shown the requisite interest in this proceeding and that Pickens Street's Second Amended Petition To Intervene included at least one relevant contention—namely, its Contention A—which minimally meets the threshold requirements of 10 CFR §2.714(a) and (b). The

Licensing Board accordingly ordered that Pickens Street's petition for leave to intervene be granted and that Pickens Street be admitted as a party to the proceeding.

The Second Amended Petition filed by Pickens Street on October 31, 1975, sets forth three lettered contentions, A, B and C. In its answer filed November 11, 1975, the Staff supports the admission of Contentions A and C and urges the disallowance of Contention B. On November 20, 1975, Applicants filed their answer urging that none of the proffered contentions be accepted.

Contention A is essentially identical to Contention 10 filed by Environmentalists, Inc., *et al.* It is rejected for the same reasons assigned to the rejection of Contention 10 hereinabove.

The first portion of amended Contention B is substantially the same as Contention 13 and part of Contention 1 as filed by Environmentalists, Inc., *et al.*, and must be rejected for reasons set forth above relating to those latter two contentions. The contention also raises questions concerning alternate sources of power generation, legislative and corporate policies regarding energy sources and group opposition to nuclear power, all of which are beyond this proceeding's scope since the BFRSS is not a power generating unit, but a storage facility for fuel generated by licensed reactors. The valid alternatives which must be considered herein are those which relate to how spent fuel can be effectively stored on an interim basis, rather than alternatives which consider the desirability of continuing to operate power reactors which produce spent fuel. To raise the issues proposed by Pickens Street in amended Contention B in this proceeding would effectively bring into controversy the validity of power reactor licenses previously issued by the Commission, over which this Board has no jurisdiction in this case. Amended Contention B is disallowed for the reason that it raises issues which are irrelevant to and beyond the scope of this licensing action.

Contention C.1 and C.2 are identical to Contention 47(a) and 47(b) filed by Environmentalists, Inc., *et al.* in this proceeding. They are rejected for the reasons assigned to the rejection of those latter two contentions hereinabove.

Contention C.3 and C.4 are identical to Contention 47(c) and 47(d) filed by Environmentalists, Inc., *et al.* Both contentions are admissible in this proceeding.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

Robert M. Lazo, Chairman

Dated at Bethesda, Maryland,
this 28th day of May, 1976.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

CLI-76-9

COMMISSIONERS:
Marcus A. Rowden, Chairman
Edward A. Mason
Victor Gilinsky
Richard T. Kennedy

In the Matter of the

License No. XR-99
Docket No 50-474

WESTINGHOUSE ELECTRIC CORPORATION

Application for the Export of Pressurized Water Reactor to Associacion Nuclear ASCO II, Barcelona, Spain

June 21, 1976

The Commission authorizes the grant to the Westinghouse Electric Corporation of a license to export to Spain major components of a nuclear steam supply system to form part of a pressurized water reactor.

ATOMIC ENERGY ACT: EXPORT LICENSE

Before authorizing an export license for a utilization facility, Section 103d. of the Atomic Energy Act requires that the Commission consider: (1) whether an agreement for cooperation between the United States and the country to which the proposed facility is to be exported would apply; (2) whether the applicant is a foreign or alien corporation; (3) whether the export would be inimical to the common defense and security of the United States; and (4) whether the export would be inimical to the health and safety of the American public.

## DECISION

Opinion of Chairman Rowden and Commissioners Mason and Kennedy:

BACKGROUND

On January 25, 1974, the Westinghouse Electric Corporation filed an application requesting a license to authorize export to Spain of major components of a nuclear steam supply system to form part of a 2696 MWT, 930 MWE gross, pressurized water reactor.[1]

[1] It should be noted that this application does not cover any special nuclear material to be used for fuel in the reactor, which would be the subject of additional licensing actions.

The reactor is to be exported to Asociacion Nuclear ASCO II, Puerta de Santa Madrona 12, Barcelona, Spain, for construction of its ASCO nuclear power unit II, located on the same site as ASCO I, on the Ebro River, about 60 kilometers west of Barcelona. Since 1965, the United States has licensed the export of eight power reactors to Spain, pursuant to a cooperation program for the civil uses of Atomic Energy.[2]

In accordance with the Commission's regulations (10 CFR §2.787.A), a *Federal Register* notice of the consideration of issuance of the facility export license was published on April 15, 1974 (Vol. 39, no. 73, page 13575). The Commission received no request for a hearing or petition to intervene in this matter.[3]

The application was referred to the Department of State on May 29, 1975, to obtain the views of the Executive Branch with regard to issuance of the export license, in accordance with the procedures now set out in Executive Order 11902. The State Department replied on August 21, 1975, providing their analysis of the license application and their conclusion that the proposed export would take place pursuant to the *Agreement for Cooperation Between the U.S. and Spain*, signed at Washington, D.C., March 20, 1974 (T.I.A.S. 7841), and that it would not be inimical to the common defense and security of the United States. We also note the existence of a trilateral *Agreement Between the International Atomic Energy Agency, the Government of Spain and the Government of the United States for the Application of Safeguards*, signed at Vienna on December 9, 1966 (T.I.A.S. 6182) and an Agreement amending the 1966 trilateral Agreement signed at Vienna on June 28, 1974 (T.I.A.S. 7856).

On September 23, 1975, in accordance with the Commission's internal procedures for consideration of facility export licenses, the NRC staff forwarded the docket of this case to the Commission with its recommendation that the license application be approved.

In addition to the license application, the *Federal Register* notice and the State Department analysis, the docket includes materials related to a lawsuit filed against the Atomic Energy Commission and other federal government agencies on October 4, 1973. This legal action, entitled *Sierra Club, et al.* v. *United States Atomic Energy Commission* (U.S.D.C., D.C., Civil Action No.

---

[2] The following U.S. power reactors have been licensed to Spain:
License #XR-59, issued 10/22/65 (Zorita)
License #XR-64, issued 6/09/67 (Nuclenor)
License #XR-88, issued 6/26/73 (Almaraz–2 units)
License #XR-89, issued 6/26/73 (Lemoniz–2 units)
License #XR-90, issued 6/26/73 (ASCO I)
License #XR-97, issued 6/10/74 (Cofrentes)

[3] The application was filed with the NRC's predecessor agency, the Atomic Energy Commission. Therefore, all actions taken prior to January 19, 1975, when the NRC assumed its regulatory responsibilities, relate to the AEC.

1867-73), involved application of the National Environmental Policy Act of 1969, 83 Stat. 852, 42 U.S.C. §§4321 *et seq.* (NEPA), to the United States nuclear export process. The materials include: a letter dated December 24, 1974, from the Office of the General Counsel, United States Atomic Energy Commission, informing Messrs. Eldon V. C. Greenberg and Robert Hallman of the Center for Law and Social Policy, counsels for the plaintiffs in the *Sierra Club* case, that no additional export licenses for nuclear power generation systems would be issued in the period during which the interim environmental impact statement on the nuclear power export program was being prepared;[4] and a Stipulation filed by the parties to the above suit in the U.S. District Court for the District of Columbia on December 9, 1974, agreeing that the Energy Research and Development Administration would issue the final interim Environmental Impact Statement on or before September 26, 1975.

The docket also contains a letter from the Spanish Embassy in Washington, dated June 10, 1975, stating that the export will be subject to the conditions of the Agreement for Cooperation between the United States and Spain.

The NRC staff's analysis regarding the proposed export indicated that the reactor components in the application for the proposed license would be subject to the Agreement for Cooperation with Spain and that the proposed export would not be inimical to the common defense and security of the United States.

As a result of additional questions we posed to the Executive Branch in December of last year, additional documentation was added to the record of the Commission's review of the proposed ASCO II export. Thus, the public files of this proceeding include a letter of December 12, 1975, from Acting Assistant Secretary Myron B. Kratzer of the State Department to Mr. Benjamin Huberman of the Commision staff describing past Spanish reprocessing of U.S.-supplied fuel in the United Kingdom (certain statements in this letter were subsequently revised in a letter dated March 3, 1976, from Mr. Dixon Hoyle of the State Department to Mr. Wayne Kerr of the NRC staff); a letter from Mr. Kratzer to Mr. Huberman of December 18, 1975, discussing U.S. policy regarding adherence to the NPT by countries receiving U.S. nuclear exports; Mr. Hoyle's letter of March 3, 1976, transmitting additional information requested by the NRC with regard to the Agreement for Cooperation with Spain and U.S. Rights to control the separation of plutonium from U.S.-supplied fuel; and a letter of April 22, 1976, from Mr. Hoyle to Mr. Huberman responding to a question on the extent to which the Spanish ASCO II reactor will be fueled with U.S.-supplied, low-enriched uranium over the anticipated life of the reactor. The information contained in this correspondence will be discussed in connection with our treatment of the statutory prohibition against the export of nuclear facilities

[4]The Final Environmental Impact Statement on U.S. Nuclear Power Export Activities (ERDA-1542) was issued in April 1976; the Draft Statement was issued eight months earlier in August 1975.

which would be inimical to the common defense and security of the United States. *See,* pp. 744-754, *infra.*[5]

In addition to the foregoing written record, the Commission has received classified briefings and classified written submittals from the Department of State and has had numerous discussions with its staff and among the Commissioners.

## COMMISSION DETERMINATION

The applicable provisions of federal statutory law which govern our consideration of this export license application are as follows:

*Atomic Energy Act of 1954,* Public Law 82-73, 68 Stat. 919

- Section 101, 42 U.S.C. 2131 which prohibits the export of utilization or production facilities, except under and in accordance with a license issued by the Commission pursuant to applicable sections of the Act;
- Section 11g., 42 U.S.C. 2014(g), which defines "common defense and security" to mean the common defense and security of the United States;
- Section 11cc., 42 U.S.C., 2014(cc), which defines a "utilization facility";
- Section 103, 42 U.S.C. 2133, which authorizes the Commission to issue licenses for production and utilization facilities, and requires that any license for the export of production or utilization facilities must be under the terms of an agreement for cooperation; and
- Section 123, 42 U.S.C. 2153, which delineates how agreements for cooperation are to be entered into and applied including the requirement that such agreements include guaranties by the cooperating party that security safeguards and standards will be maintained and that material provided by the U.S. will not be transferred beyond the cooperating party's jurisdiction without United States' agreement or used for any military purpose.

*Energy Reorganization Act of 1974,* Public Law 93-438, 88 Stat. 1233

- Section 201(f), 42 U.S.C. 5841(f), which transferred to the Nuclear Regulatory Commission "... all the licensing and related regulatory functions of the Atomic Energy Commission ...."

The section of the Atomic Energy Act which specifies the criteria we must apply in the licensing of a utilization facility, such as the Westinghouse reactor in the present matter, is Section 103d. which states:

No license under this section may be given to any person for activities which

[5] On February 26, 1976, and March 31, 1976, Westinghouse wrote to the Nuclear Regulatory Commission expressing an urgent need for the license.

are not under or within the jurisdiction of the United States, except for the export of production or utilization facilities under terms of an agreement for cooperation arranged pursuant to section 123, or except under the provisions of section 109. No license may be issued to an alien or any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled or dominated by an alien, a foreign corporation, or a foreign governemnt. In any event, no license may be issued to any person within the United States if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the common defense and security or to the health and safety of the public.

Thus, under the statute there are four separate factors which the Commission must consider in the instant matter: (1) whether an agreement for cooperation would apply; (2) whether the applicant is a foreign or alien corporation; (3) whether the export would be inimical to the common defense and security of the United States; and (4) whether the export would be inimical to the health and safety of the American public. We will treat these factors, *ad seriatim.*

**(1) Agreement for Cooperation**

The record reflects that the proposed export would be undertaken under the terms and conditions of the Agreement for Cooperation between the Governments of Spain and the United States for the civil uses of nuclear energy. Initially, the plain language of the Agreement makes this result clear. Under the terms of Section 123 of the Atomic Energy Act, the Agreement was approved by the President after his making of a determination in writing that "the proposed agreement will promote and will not constitute an unreasonable risk to the common defense and security." The Agreement also received Congressional review through the procedure of submitting the instrument to the Joint Committee on Atomic Energy for the 30-day statutory period then applicable to such civil uses Agreements. *See,* Section 123c. of the Atomic Energy Act of 1954. Under Article XV of the Agreement, it entered into force for the parties on June 28, 1974, and remains in force for a period of forty years.

Article I(6) defines "equipment and devices" to mean "any instrument, apparatus, or facility, and include[s] any facility, except an atomic weapon, capable of making use of or producing special nuclear material, and component parts thereof." Article III(1) reflects that information may be exchanged on "[d]evelopment, design, construction, operation, and use of . . . power reactors . . . ." The Agreement's definition section provides, in Article I(8) that a reactor "means an apparatus, other than an atomic weapon, in which a self-supporting fission chain reaction is maintained by utilizing uranium [etc.]." As described in license application No. XR-99, the ASCO II reactor would fall

within the scope of these definitions. Article VI(A) is also applicable here. It states:

> With respect to the application of atomic energy to peaceful uses, it is understood that arrangements may be made between either Party or authorized persons under its jurisdiction . . . for the transfer of equipment and devices and materials other than special nuclear material and for the performance of services with respect thereto.

The proposed ASCO II export by Westinghouse Electric Corporation, a corporate person under the jurisdiction of the United States, would be covered by this provision.

Furthermore, a letter from Sr. Jose M. Sierra, Counselor for Economic Affairs of the Embassy of Spain in Washington, dated June 10, 1975, makes clear the Spanish Government's understanding that the ASCO II reactor falls within the ambit of the Agreement. The analyses of the Department of State and the NRC staff also reflect this fact. Therefore, the initial factor required by Section 103(d) of the Atomic Energy Act is established in the instant matter.

**(2) Corporate Status**

The license application in the present case reflects the fact that the licensee for the export of ASCO II facility would be the Westinghouse Electric Corporation, whose address is listed as 5-400 Penn Center, P.O. Box 1918, Pittsburgh, Pennsylvania. The Commission takes notice of the fact, through numerous other proceedings, that the Westinghouse Electric Corporation is a company chartered in the United States, with corporate headquarters in this country, and doing business in the United States. The Commission is aware of no information which would lead it to believe that Westinghouse is owned, controlled, or dominated by an alien, a foreign corporation or a foreign government.

**(3) Common Defense and Security**

Under Section 103 of the Atomic Energy Act, no export license for a production or utilization facility may be granted if this Commission is of the opinion that such an export would be "inimical to the common defense and security." Under Section 11g. of that Act, the term "common defense and security" means the "common defense and security of the United States." In the judgment of the Department of State (reflecting its own view, and that of other concerned Executive Branch agencies) and the NRC staff, the export of the ASCO II facility to Spain would not be inimical to this nation's security interests. Our own analysis leads us to agree with that assessment; and we affirmatively find that the export would not be inimical to the common defense and security of this nation.

Because this export license decision constitutes the first published discussion of how we apply the "common defense and security" criterion, it may be useful to discuss in some depth the factors we have considered in arriving at our determination of non-inimicality in this matter. We would wish to make it clear that our discussion does not preclude the future adoption of different or additional criteria. In this regard we would mention that, since January of this year, the NRC staff has been engaged in a comprehensive study of our export licensing process. One of the specific purposes of that study is to determine whether changes in the criteria we employ in making our export determinations may be warranted.

The Commission regularly poses a series of eight basic questions to the Executive Branch (through the Department of State) when reviewing an export license application. *See, Export Licensing Procedures,* Nuclear Regulatory Commission, January 1976. Under Executive Order 11902, 41 *Fed. Reg.* 4877 (February 2, 1976), the procedures for receiving Executive Branch views have been formalized, with the State Department designated to collect, synthesize and forward those views to the Commission. Although these eight questions, in and of themselves, do not constitute exclusive, formal decision criteria, they do provide guidance on what matters we believe are most important in reaching our common defense and security determination. One of the questions posed (number 2) bears upon the separate question of whether the export would be governed by an Agreement for Cooperation. Also, as will be discussed later, questions four (on accounting and inspection procedures to be employed where IAEA safeguards are not applied) and five (on physical security arrangements for exports of strategic nuclear materials) are not immediately relevant to the ASCO II matter. The other questions bear directly on security issues, and we shall review them in the order they are posed to the Executive Branch.

The first question asks for information concerning the purpose of the export. In this case, the ASCO II facility will provide electric power for four Spanish utilities serving the immediate area of Barcelona. This type of civilian use of nuclear power is not inimical to the common defense and security of the United States, and is consistent with formal undertakings by the Government of the United States in *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) done at Washington, London and Moscow on July 1, 1968, 21 U.S.T. 483, T.I.A.S. 6839. The United States is committed to peaceful nuclear cooperation by its membership in the International Atomic Energy Agency. Article II of the Statute of that organization announces the objectives of seeking "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." Although, as an independent regulatory body, this Commission must eschew developmental and promotional concerns in the field of nuclear energy, it is obliged to take notice of the fact that this nation has commited itself to assisting other nations in the peaceful uses of nuclear energy through multilateral commitments (such as the Statute of the IAEA), as well as

bilateral arrangements with some thirty nations. *See, United States Agreements for Cooperation in Atomic Energy,* Congressional Research Service, prepared for the Senate Government Operations Committee, 94th Cong., 2nd. Sess. (January 1976), pp. 55-56. *See also,* Atomic Energy Act of 1954, Section 3. Therefore, civilian activities such as construction of reactors using low-enriched fuel to provide electrical power, do not, in themselves, raise questions of inimicality with the common defense and security of the United States. Inimicality must arise, if at all, from other circumstances surrounding such activities.

As stated earlier, question 2 deals with the Agreement for Cooperation, which is the underlying international understanding upon which this export is based.

Question 3 concerns whether a recipient country has accepted and implemented safeguards under the International Atomic Energy Agency, or bilaterally with the United States. Here, the record reflects the existence of a trilateral safeguards agreement between the United States, Spain and the IAEA, under which the IAEA administers safeguards provisions which otherwise would be administered by the United States. As the Department of State analysis indicates, however, the presence of the trilateral agreement does not affect the provision in the U.S./Spain Agreement which guarantees that material generated in U.S.-supplied equipment, whatever its source, will be subject only to peaceful use; or the provision that any retransfer of U.S.-supplied equipment or devices may be made only with U.S. approval; or the provision reserving to the U.S. a right of prior safeguards approval for any future reprocessing of U.S.-supplied fuel. (*See,* Section 1(E) of the 1974 Agreement amending the 1966 IAEA/U.S./Spain trilateral Agreement.) As Article XII of the Agreement for Cooperation provides, moreover, U.S. bilateral safeguards are suspended only during the period that the United States Government agrees that other safeguards being applied are adequate.

The applicability of bilateral or IAEA safeguards to a nuclear export assures that the peaceful use assurances of the Spanish Government can be technically verified, and is therefore of crucial importance in reaching a decision on whether issuance of a license might contravene the common defense and security. The applicability of such safeguards in the instant matter and the means for their continuing improvement are factors giving substantial support to our decision.

Article XI of the bilateral requires, among other things, that safeguards apply to any fuel which may be used in a U.S.-supplied reactor and to any plutonium produced through the use of a U.S.-supplied reactor. Safeguards pursuant to this requirement of Article XI would be applied in Spain by the International Atomic Energy Agency (IAEA), regardless of the origin of the fuel, in the manner provided for by the trilateral safeguards agreement among the United States, Spain and the IAEA. In addition to requiring safeguards within Spain on any fuel used in or plutonium produced through the use of a U.S.-supplied reactor, Section 14 of the trilateral agreement requires that both countries

jointly notify the IAEA, among other things, of the transfer of special nuclear material used in or produced through the use of a U.S.-supplied reactor. That section further provides that such materials may be transferred only if "(a) [a]rrangements have been made by the Agency to safeguard such materials, equipment or facilities, or (b) [t]he materials, equipment or facilities will be subject to safeguards other than those of the Agency, but generally consistent with such safeguards and accepted by the Agency." Thus, the use of non-U.S. fuel as well as U.S.-supplied fuel in U.S.-supplied reactors will be accompanied by the application of international safeguards to that fuel and to any special nuclear material produced from the irradiation of that fuel.

The fourth question ordinarily posed asks about the adequacy of accounting and inspection procedures in circumstances where IAEA safeguards are not applied. This question is not relevant to this license application because IAEA safeguards are applicable.

The fifth question asks what physical security arrangements are to be applied when significant quantities of strategic nuclear material (plutonium or highly enriched uranium) are exported. Since the present license does not concern the transfer of such material, an evaluation of physical security arrangements at ASCO II is not relevant in this context.

The sixth question refers to the position of the recipient country with regard to the non-proliferation of nuclear weapons. This factor is also important to our evaluation of common defense and security matters. One of the indicia of a nation's intent to refrain from embarking on a nuclear weapons program is adherence to the *Treaty on the Non-Proliferation of Nuclear Weapons.* Spain is not a signatory to that instrument. However, no provision of the NPT obliges the United States to confine its nuclear exports to NPT adherents.[6] It has been the consistent policy of the United States Government, which this Commission actively supports, to promote adherence to the NPT, and the Government of Spain is fully aware of our interest in this regard. Indeed, we note that some of the concerns about granting the present export license application expressed in Commissioner Gilinsky's dissenting statement would have been reduced by Spanish adherence to the NPT. There are, however, other ways in which a nation can indicate its "peaceful use" intentions.

In the present case, Article X of the U.S./Spain Agreement for Cooperation evidences that the Spanish Government has forsworn development of atomic weapons with respect to U.S.-supplied technology and material, and non-U.S. supplied material irradiated in the ASCO II reactor. Also of significance is the

[6] "Insofar as U.S. exports to non-nuclear-weapons states which are *not* party to the NPT is concerned, the U.S. position from the outset clearly has been that its obligations under Article III(2) are met if the recipient country has concluded an appropriate safeguards agreement with the IAEA, even though not pursuant to the NPT." (Emphasis in original.) Letter from Myron B. Kratzer to Benjamin Huberman, dated December 18, 1975.

statement in the State Department's formal analysis of question 6 that "there is no indication that its (Spain's) failure to adhere (to the NPT) is based on any desire to develop a nuclear weapons capability."

Question 7 asks about understandings between a recipient country and the United States "with respect to the use of U.S.-supplied material or equipment to acquire or develop nuclear explosive devices for any purpose, and as to the recipient country's policies and actions as to such development using equipment and material from any source." Because of certain provisions of the Agreement for Cooperation between Spain and the United States, we have given particular scrutiny to the issue raised by this question. Article VIII(C) of the Agreement provides:

> When any special nuclear material received from the United States of America pursuant to this Agreement or the superseded Agreement requires reprocessing, or any irradiated fuel elements containing fuel material received from the United States of America pursuant to this Agreement or the superseded Agreement are to be removed from a reactor and are to be altered in form or content, such reprocessing or alteration shall be performed in facilities acceptable to both parties upon a joint determination that the provisions of Article XI [on safeguards] may be effectively applied.

By its terms, this language from the Agreement covers only U.S.-supplied fuel. Therefore, the question arises whether the ASCO II reactor might be operated on non-U.S. fuel, which—when irradiated—would create the potential for a stockpile of material which could be reprocessed into weapons material without adequate safeguards guarantees under either the United States bilateral Agreement or the trilateral Agreement with the IAEA. In his dissent, Commissioner Gilinsky takes the position that "[t]he uncertainties surrounding the origin of the fuel to be used in the reactor and, consequently, the adequacy of the safeguards which will be applied to the reprocessing of such fuel, when considered against the background of Spain's failure to join the NPT—or, lacking that, to bring all its nuclear activities under international safeguards—preclude the required finding that the proposed export would not be inimical to the common defense and security." He therefore concludes that "the ASCO II license should not be approved in its present form." We cannot agree.

In our judgment, the total safeguard framework, including the mechanisms for continuing improvement, provide an adequate basis for our determination.

The peaceful use guarantee which Spain has given for all nuclear materials which may be irradiated in U.S.-supplied facilities, such as ASCO II, includes fuel obtained from non-U.S. sources. The applicable provision of the U.S./Spain bilateral agreement here is Article X(2) which permits "[n]o material, including equipment and devices, transferred to the Government of Spain . . ., and no special nuclear material produced through the use of such material, equipment and devices, . . . [to] be used for atomic weapons, or for research or development of atomic weapons, or for any other military purpose."

Also, in its response to question 7, the Executive Branch states that "[t]he Government of Spain clearly understands that its undertakings under both the bilateral and trilateral agreements with regard to peaceful uses only precludes the use of U.S.-supplied materials, equipment or devices or special nuclear material generated therefrom in the development of nuclear explosive devices, including so-called 'peaceful nuclear explosives.'" Also relevant in this regard is the "civil purpose" assurance in Article XI(A) of the bilateral agreement; and the undertaking in Section 2 of the trilateral that "Spain . . . will not use in such a way as to further any military purpose any material, equipment or facility while it is listed in the Inventory for Spain."[7]

In light of the above discussion regarding the peaceful use assurances given by the Government of Spain and considering that international safeguards will apply to the use *and* reprocessing of all fuel used in the ASCO II reactor, we do not perceive that any substantive basis exists for believing that non-U.S.-supplied fuel would be used in the ASCO II reactor and then reprocessed under conditions that would permit its use for weapons purposes, thereby threatening United States security interests. The Executive Branch statement as to the understanding of the Spanish Government is supported by the evidence. Problems with reprocessing of non-U.S.-supplied material would not arise unless Spain were deliberately to determine to breach its undertaking, with all the consequences which would flow from that act. Additional confidence that Spain will continue to abide by this understanding is, of course, provided by the safeguards rights under the bilateral and trilateral agreements. Any fuel used in the ASCO II reactor, from whatever derivation, is automatically subject to IAEA safeguards.

Also, the presence of a fixed-commitment fuel supply contract between the Spanish Government Agency ENUSA and the U.S. Energy Research and Development Administration[8] makes it likely that much of the fuel used in the ASCO II reactor will be supplied by the United States and, as such, subject to U.S. safeguards rights under the Agreement for Cooperation, should reprocessing be proposed.

Any nation, like Spain, which has placed substantial reliance on nuclear technology transferred from the United States and other nations to supply its

[7] These peaceful use assurances are also associtated with safeguards guarantees. *See,* discussion of Question No. 3 at pp. 746-747, *supra.*

[8] This contract entered into force on December 31, 1973. During the first ten-year supply period, Spain is required to purchase a specified number of separative work units which should be sufficient to provide all the fuel needs of the ASCO II reactor. During the remaining twenty-year period, Spain has the right to obtain enrichment services from ERDA up to the requirements of U.S.-supplied reactors, including the one covered by the present license application, after giving written notice to ERDA of the amount of separative work it wishes to purchase, at least ten years in advance of its proposed delivery date. *See, Letter from Dixon B. Hoyle to Benjamin Huberman,* dated April 22, 1976, p. 1.

most basic energy needs, has strong practical reasons for abiding by its understandings with nations which continue to supply these basic needs, particularly in an area of policy having such fundamental importance to those nations as nuclear non-proliferation. The major role of energy imports in the Spanish economy is alluded to in the following language from the Executive Branch analysis under question 8 relating to special factors bearing on the issuance of the license:

> Spain is heavily dependent on energy imports and, as an industrialized nation, has adopted the policy that further expansions in its electrical generating capability will be almost exclusively through the use of nuclear power.

Commissioner Gilinsky, in his dissenting opinion in this matter, advocates different means of achieving the non-proliferation goals shared by all the Commissioners. He states the desirability of the U.S. having reprocessing review and approval rights covering not only U.S.-supplied fuel but also non-U.S.-supplied fuel and acknowledges that the latter right is not accorded by the U.S./Spain Agreement—in contrast to certain other proposed Agreements now in the negotiation process. To achieve the same result as respects Spain, despite the provisions of the Agreement with the United States, it is suggested that the Commission withhold approval of this license until the United States Government has obtained assurances from the Government of Spain that only U.S.-supplied fuel will be used in the ASCO II facilities.

While it is desirable, from the standpoint of U.S. non-proliferation interests, to exercise the most stringent safeguards controls possible over fuel reprocessing, we find the considerable safeguards framework of the existing agreement an adequate basis for the subject export.

With respect to U.S. fuel provided to Spain, U.S. rights would apply regardless of whether the fuel were used in ASCO II, in some other U.S.-supplied reactor, or in a reactor not of U.S. origin. The use of non-U.S. fuel in ASCO II, on the other hand, would take place in the context of an international safeguards regime. Spanish obligations under Article XI of the Agreement for Cooperation would assure that the use of non-U.S. fuel in ASCO II would trigger the application of continuing IAEA safeguards to that fuel, and to any plutonium produced from the irradiation of that fuel in the reactor. Finally, before such fuel was reprocessed, an IAEA determination would have to be made that the reprocessing facility and the subsequent storage or use of the recovered plutonium would take place under conditions permitting adequate safeguards against diversion. The right of the United States (or, in the case of non-U.S. fuel, of the IAEA) to determine that adequate safeguards can be applied to plutonium reprocessing *before* it occurs provides a mechanism to protect U.S. national security interests in this area.

At this juncture, it is impossible to specify the details of such a safeguards

determination, whether made by the U.S. or by the IAEA, and it is premature to judge in advance—as our colleague attempts to do—that the IAEA safeguards framework will be inadequate to make a sound determination. The safeguards determinations contemplated in the U.S./Spanish Agreement for Cooperation and the U.S./IAEA/Spain trilateral safeguards Agreement and the IAEA Statute are not abstract policy determinations. They are concrete assessments based on a specific reprocessing technology as employed at a specific facility. Such assessments would involve a detailed analysis of material flow and of diversion possibilities in the specific facility, based on the details of technology, records keeping, physical security and management practices in the reprocessing plant and in the facilities where extracted plutonium would be stored or used. On the basis of such an analysis, the party making the determination would evaluate the inspection manpower requirements, and inspection frequency (continuous, if necessary) the records audit, the other measures, perhaps of a different character, required to provide adequate safeguards against diversion.

The U.S. or the IAEA, as the case may be, would retain the authority to disapprove reprocessing of fuel from ASCO II until acceptable safeguards measures were devised and to condition reprocessing on acceptance of such measures. We specifically note, in this regard, the IAEA's obligation to approve reprocessing only when measures are adequate to assure that "it will not further any military purpose." IAEA Statute Article II. These rights would apply generally to both the U.S. and the IAEA, although the authorizing language in the IAEA Statute is somewhat different from that contained in the bilateral Agreement between the United States and Spain. In the case of Spain, no such determination lies before the U.S. Government or the IAEA at this time.

The United States has adopted a policy of seeking the application of stringent safeguards measures for the reprocessing and storage of plutonium. This policy recognizes that the presence of reprocessing and storage of plutonium raises special problems of timely detection and uninterrupted monitoring which stringent safeguards measures must address. In the IAEA context, INFCIRC 66/Rev. 2 establishes a framework for applying IAEA safeguards consistent with U.S. policy in this area. At such time as the IAEA may be called upon to make a safeguards determination in Spain, the means exist for making that decision responsibly and in harmony with U.S. policy objectives. Thus, there is no inconsistency between those provisions of the Agreement for Cooperation which acknowledge IAEA's role in safeguarding the reprocessing of U.S. fuel and the U.S. policy of taking special precautions in applying such safeguards.

We note in this regard, as our dissenting colleague recognizes, that serious and intensive study of these problems and of appropriate measures to deal with them is underway both by the United States Government and within the IAEA. These include technical improvements in monitoring techniques, as well as measures that go beyond traditional auditing and inspection procedures, such as

multinational fuel reprocessing centers. The majority is keenly aware that the need to improve the nuclear safeguards will continue, on both the international and domestic level. We are also keenly aware that the IAEA is a principal mechanism for pursuing U.S. goals with respect to international safeguards and non-proliferation. The U.S., as an active member of IAEA, is in a position to participate fully in the Agency's activities, such as its current work on the prospects of safeguarding reprocessing facilities in a multi-national context. The NRC, working with other U.S. Government agencies, can and fully intends to make its influence felt within the IAEA framework in support of safeguards adequacy and the continuing control evaluations necessary to assure this.

Contrary to our colleague's view (See, *Dissent* at p. 768) the broad membership of nation-states in the IAEA enhances the value of that organization as a vehicle for advancing U.S. safeguards objectives by offering a forum for their international acceptability and application without which safeguards measures cannot be effective. The United States Government's experience with IAEA safeguards is long and favorable. Considering this experience and the IAEA's serious, intensive and continuing study of the special problems of safeguarding reprocessing facilities, we see no basis for concluding that IAEA will do an inadequate job of making its required safeguards determination, should the occasion for such a determination arise, or that the Agency would inadequately apply or enforce the safeguards developed in connection with that determination. The mere fact that such an IAEA safeguards determination might not be identical to a U.S. determination does not give cause to believe that any difference would pose an unacceptable risk to our national security sufficient to justify denial of the ASCO II license. Thus, the mechanisms of improving IAEA safeguards, coupled with the Agency's responsibility to approve reprocessing only when measures are adequate to assure that "it will not further any military purpose," provide a framework to assure that any reprocessing of non-U.S. fuel from the ASCO II reactor will take place under conditions consistent with the common defense and security of the United States.

Moreover, we cannot ignore the fact that other supplier nations, whose policies on nuclear exports embrace "special conditions governing the use or retransfer of sensitive material, equipment or technology,"[9] have demonstrated an interest in assuring that fuel they supply will not contribute to the development of nuclear explosives in recipient countries.

We believe that our colleague's concern that IAEA safeguards associated with reprocessing will be insufficient to provide an early warning that plutonium may be diverted to military purposes does not take into account important practical considerations as regards Spain. First, construction of a production-scale reprocessing plant in Spain would require a lead time of up to nine years and

[9] *See*, Secretary of State Kissinger's testimony before the Senate Committee on Government Operations, March 9, 1976.

quite possibly technical assistance from abroad. Plainly there will be a clear and early signal to the international community of the need for effective safeguards. If Spain sought to acquire plutonium from a foreign source, rather than through a domestic reprocessing capability, the supplying country is required to notify the IAEA of any proposed shipment, in accordance with the Agency's safeguards procedures. We also note the possible hearing of Article XII(A) (5) of the IAEA Statute, which states that "with respect to any Agency project, or other arrangement where the Agency is requested by the parties concerned to apply safeguards, the Agency shall have the following rights and responsibilities'... (5) [among others] ... to require deposit with the Agency of any excess of any special fissionable materials recovered or produced as a by-product [of chemical processing] over what is needed for the above-stated [peaceful] uses in order to prevent stockpiling of these materials, ...."

We would further observe that, in the present instance, the course proposed by our colleague would not be effective in achieving the controls he feels are necessary. As stated previously, the United States has already licensed eight power reactors for export to Spain, all of which may be fueled with non-U.S.-supplied uranium. Indeed, Spain has taken steps to enable it to acquire reactor fuel from other supplier nations, which, if not utilized for ASCO II, would be available for *any* of the facilities for which previous export licenses have been issued. Moreover, Spain has acquired reactors from other supplier countries, and will be able to do so in the future. Thus, even if we could assure that the transfer of ASCO II would be tied to the use of U.S.-supplied fuel, the end result would be without real effect as respects Spain.

In this context we would note that none of the existing agreements for cooperation between the U.S. and recipient countries contain provisions giving the U.S. safeguards rights over reprocessing of nuclear fuel of non-U.S. origin. Nor, with the sole exception of the agreement with India, do they require the recipient country to use only U.S. fuel in U.S. supplied reactors.

Thus, we believe that the course proposed by our colleague—while evidencing a concern we all share over the risks associated with reprocessing—would not adequately address the practical realities we now face. While unilateral Commission action here may seem appealing, in the end it would be misleading to imply or assert that it would be an effective means for advancing U.S. non-proliferation goals. Given the many agreements for cooperation already in effect, given the nuclear exports which have already taken place, and given the existence of other nuclear suppliers within the international community, the majority believes that our objective of imposing stringent controls over reprocessing and storage of plutonium in non-nuclear-weapons states can be pursued most effectively in the IAEA and in cooperation with other countries.

Moreover, while pursuing our objectives in broader forums, we must recognize that our nuclear relationship with Spain and other countries is based on mutual understandings: the safeguards obligations of the Agreement for

Cooperation are associated with our agreement to make available nuclear technology and materials for peaceful purposes. If our supply position should be eroded through unwarranted unilateral demands, delays and uncertainties, United States influence over the safeguards obligations assumed by recipient countries will undoubtedly diminish.

The Commission majority believes that consideration must be given continuously to the need for improved safeguards restraints, with a view to whether further measures would contribute to the achievement of this country's nonproliferation objectives. In point of fact, a number of further non-proliferation initiatives, including ones relating to the areas of reprocessing and related safeguards considerations, are currently under active consideration in the interagency context—in several instances at our behest. The Commission, moreover, is regularly consulted by the Executive Branch in the formulation of national policies with regard to nuclear exports. The majority believes that such a setting is the appropriate one for addressing broad questions of future U.S. policy in this area.

In sum, in the view of the majority of the Commission, the export of the ASCO II facility to Spain would not be inimical to the common defense and security of the United States.

### (4) Health and Safety

The Commission sees no circumstances in which the operation of the ASCO II reactor would affect the health and safety of the U.S. population. The Nuclear Regulatory Commission and its predecessor agency, the Atomic Energy Commission, have continuously taken the view that the health and safety impact in foreign nations of exported nuclear facilities and material is outside the jurisdiction of the Commission. This view is reflected in the *Federal Register* notice which is issued at the time an application for the export of a utilization facility is reviewed. In the present matter, such a notice was published on April 15, 1974, at 39 *Fed. Reg.* 13575, which included the following statement:

> In its review of applications solely to authorize the export of production or utilization facilities, the Atomic Energy Commission does not evaluate the health and safety characteristics of the facility to be exported.

The legal and practical reasons why foreign health and safety impacts are not considered in our licensing of exports are more fully set out in this Commission's recent opinion in *Edlow International Company*, CLI-76-6, NRCI 76/5, 563, 582-583 (May 7, 1976).

## CONCLUDING REMARKS

In summary, the export of the ASCO II reactor to Spain is in full accord

with the Agreement for Cooperation between that country and the United States; that Agreement, which entered into force only two years ago after approval by the President and review by Congress, provides safequards guarantees to insure that the reactor, any fuel used in it and any nuclear material reprocessed therefrom will not be diverted to military uses; and the total safeguards framework thereby provided, including the mechanisms for continuing improvement, will insure that the export will be in full conformity with U.S. national security interests.

In rendering this decision, we believe it in order to add a number of more general observations as to the bases for and objectives of our export licensing process.

The Energy Reorganization Act vested this Commission with significant authority regarding U.S. exports of nuclear facilities and materials for civil uses. We take with utmost seriousness the mandate we have for final decision in these matters. This agency has made and can continue to make a constructive contribution to assuring adequate safeguarding of the civil uses of nuclear energy resulting from American nuclear exports. We have not only a regulatory mandate as regards safeguards, but also a steadily growing organizational competence which can and should be a national resource in helping to further this country's non-proliferation goals.

With our authority goes the requirement that our export licensing decisions be responsibly made. We are mindful, to be specific, that these decisions are but one aspect of this country's nuclear foreign policy—indeed, of its overall foreign policy. We have not hesitated to communicate our views on national policy in the area of non-proliferation to the Executive, as well as to the Congress, which have received them willingly and given them the most careful consideration. We are fully prepared, moreover, to condition or deny export licenses where the circumstances warrant, though we find no such circumstances here. As recent events have shown, the achievement of important non-proliferation objectives—including broader adherence to the NPT—may successfully, and in our judgment, more appropriately, be resolved through the exercise of constructive diplomacy. The necessarily limited means and focus of the export licensing process are sharply illuminated by the present licensing proceeding. An *ad hoc* change in the conditions under which the ASCO II reactor is supplied would not affect the safeguards conditions at the other eight U.S.-supplied reactors licensed for Spain (except, paradoxically, to shift the "ASCO II problem" to them), let alone conditions at reactors supplied to Spain by other nations.

We are mindful, moreover, that the United States does not have unlimited leverage as a supplier of nuclear technology and fuel. How best to apply our influence to further this country's non-proliferation goals is a question in which complex and sensitive foreign policy considerations become dominant. In dealing with such questions, it would be irresponsible for this Commission not to consider fully the views of the Executive Branch agencies, which have not only

functional competence, and Constitutional responsibility, but also are politically accountable for foreign policy decisions.

The majority decision has taken those precepts into account. Indeed, if we were to lose sight of those considerations, we would have grave doubts that the present system of export licensing could work effectively and continue to serve the overall interests of our country.

## FINDING AND ORDER

For the reasons set forth above, we find that License No. XR-99 meets all the standards relevant for issuance under the Atomic Energy Act of 1954 and the Energy Reorganization Act of 1974 and hereby direct the Assistant Director for Exports-Imports and International Safeguards to issue said license to the Westinghouse Electric Corporation.

It is so ORDERED.

By the Commission

Samuel J. Chilk
Secretary of the Commission

Dated at Washington, D.C.
this 21st day of June 1976

**Dissenting Opinion of Commissioner Gilinsky:**

In approving the export of the ASCO II reactor to Spain, the Commission majority has determined, among other things, that this action is not inimical to the common defense and security of the United States. I cannot agree.

I should like to make clear at the outset that I do not oppose the export of this reactor; I oppose its export under the particular terms of this license, as it contains a vital flaw involving controls over the plutonium—a nuclear explosive—which will be produced in the operation of the reactor.

I believe the United States must retain the authority to delay the separation of plutonium from the spent fuel until some equitable and secure alternative to national stockpiling of this dangerous material can be instituted. A search for such alternatives is now underway, both in our government and internationally. I have suggested a remedy, which is to place a condition on this license to ensure the retention—at least temporarily—of U.S. controls over the ASCO II fuel by requiring that U.S. fuel be used exclusively in the reactor.

Controls over the civil uses of nuclear energy have evolved through the years, first through our own laws and export practices, and more recently through the development of the International Atomic Energy Agency (IAEA) safeguards systems. They are designed to follow reactor fuel through its cycle and prevent its diversion to explosive purposes. So far these systems have worked well. But recent technological developments require us to look beyond reactor safeguards to what the Secretary of State has characterized as "the greatest single danger of unrestrained nuclear proliferation"—the spread of the means to reprocess spent reactor fuel for its plutonium and the accumulation of this explosive material under national control.[1]

The danger in this developing situation arises from the fact that a secure system for safeguarding separated and stockpiled plutonium from sudden appropriation for military purposes is not yet at hand. The systems now in operation, for reasons I will explain below, are inadequate to provide, in the case of such appropriation, the early warning on which all existing safeguards are predicated.

The Commission majority does not appear to dispute this. They agree that plutonium reprocessing and storage raises special problems and must be subject to "stringent" safeguards. Nor do they contest my view that delay of plutonium separation is the only effective safeguard available at the moment. They acknowledge that fuel from non-U.S. sources, over which we have no reprocessing control, may well be used in the Spanish reactor.

It is at this point that the heart of our disagreement can be found. For if non-U.S. fuel is employed, safeguards will be administered only by the IAEA, and the U.S. will have no control over whether and in what circumstances plutonium will be separated from ASCO II's spent fuel. The majority, while admitting that IAEA safeguards leave much room for improvement, studiously avoid taking a position on whether they are adequate to the protection of plutonium reprocessing and storage. Nonetheless, they state that the IAEA safeguards "framework" provides an adequate basis for this particular export.[2] They would be prepared, in effect, to gamble that major improvements in the system will be in place in time to deal with ASCO II's plutonium output, or lacking this that IAEA will exercise an untested authority of its statute to hold up reprocess-

[1] "Building International Order," Remarks of Secretary of State Kissinger, before the 30th Session of the United Nations General Assembly, September 22, 1975.

[2] Elsewhere in the Decision we are confronted with "the total safeguards framework", which apparently refers to the sum total of assurances, bilateral agreements, "mechanisms for improvement", "technical verification", international institutional arrangements in varying stages of development, and the like. Apparently it is their view that the adequacy of safeguards systems depends on the accumulated weight of all such parts. By treating these in aggregate, without critically examining the components, they avoid a statement of what criteria are to be used to measure effective safeguards systems.

ing or plutonium stockpiling in Spain. I assess the odds less favorably and conclude retention of U.S. controls is essential in this case. It is for this reason I have advocated a condition, which would involve little or no cost to Spain, to this license.

The majority argues that this course will be ineffective and that only through international negotiations on a broad front can workable controls be achieved. The ultimate solution certainly lies there, but in the meantime the Commission is still required to deal with each license separately and on its merits.

It is obvious that there are inherent limitations in the scope of any licensing review. But we must beware of limiting our scope of action to the point where the Commission becomes merely an interested bystander. Whatever else may be said, at the very least the Atomic Energy Act requires us to ensure that no nuclear export within the Commission's jurisdiction is licensed in conditions that may contribute to nuclear proliferation. An assertion by the majority that the "mechanisms" exist to make safeguards adequate for the future does not, in my view, satisfy the statutory requirement.

The Executive agencies of the U.S. government, which have clearly expressed an awareness of the need for more reliable means for safeguarding separated plutonium in numerous policy statements and actions, have nevertheless recommended the unencumbered issuance of this license. In my opinion it is the statutory responsibility of the Commission to resolve this inconsistency on the side of caution.

Before addressing the merits of the ASCO II license in detail, some background discussion is desirable.

## I

Plutonium is an inevitable by-product of the operation of nuclear power reactors of the type here at issue. If separated from the spent reactor fuel, plutonium can be "recycled" as fuel for these reactors to supplement the low-enriched uranium which normally serves this funcion, or it may be stored for use in future technologies, such as the "breeder" reactor.

The economic viability of the use of plutonium as fuel in the near future is yet to be demonstrated. Nevertheless many nations have recently become interested in the possibility of reprocessing their spent reactor fuel to extract its plutonium, either domestically or, where domestic facilities are lacking, in the facilities of other countries. This development threatens to lead to accumulation of sizeable stockpiles of the separated element, stored against any number of options related to the peaceful uses of nuclear energy. There are, however, dangers inherent in this developing situation since plutonium is also a nuclear explosive, and the amounts produced in the course of the operation of civilian

reactors are very large, by any measure, in terms of explosive potential.[3] Once this material is separated and stored, for whatever purpose, it can be appropriated suddenly and without warning for explosives. As will appear below, once plutonium has reached this stage in the fuel cycle, the international safeguards system now available to protect against such appropriation cannot be counted on to provide adequate warning of such an eventuality.

From the beginning of this nation's civilian nuclear export program, the United States has endeavored to protect against the use of exported materials and equipment for other than peaceful purposes. The principal mechanisms for achieving this objective have been our Agreements for Cooperation with our nuclear trading partners; all U.S. exports of nuclear reactors and fuel must be made in accordance with such Agreements. Atomic Energy Act of 1954, as amended, Section 123. These Agreements require, first, that the importing nation assure the United States that fuel and reactors transferred under the Agreement, and plutonium produced during the course of reactor operation, will be used only for peaceful purposes.[4]

It must be emphasized, however, that the United States has never viewed peaceful use assurances to be sufficient, in themselves, to provide the security needed as a basis for export of reactors and their fuel. Rather, we have insisted from the outset that each Agreement for Cooperation provide for the application of safeguards over our nuclear exports. These safeguards, which take the form of material accounting and inspection, are designed to ensure compliance with the pledges given in the Agreements and to deter their violation. *See Final Environmental Statement on U.S. Nuclear Power Export Activities* (ERDA-1542), p. 3-97.[5] Implicit in the long-standing safeguards requirement in the Agreements and, more recently, in Article III(1) of the NPT, has been the

[3] A standard reactor of the type under discussion would normally produce about a quarter-ton of plutonium per year. The amount required for an explosive device is perhaps 15 pounds.

[4] Since the initial signing of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) July 1, 1968, 21 U.S.T. 483, T.I.A.S. 6839, parties to our Agreements have had the opportunity to underscore these bilateral assurances respecting U.S. exports by adherence to the NPT, which requires parties not possessing nuclear weapons at the time of the Treaty's entry into force to renounce unconditionally the manufacture of nuclear explosives. NPT, Article II.

[5] With one exception (Italy) the U.S. has agreed that the safeguards under our Agreements for Cooperation shall be administered by the International Atomic Energy Agency (IAEA) in our behalf. These arrangements between the IAEA, the U.S. and the other party to the Agreement for Cooperation are embodied in separate trilateral agreements (sometimes referred to as "Safeguards Agreements") which provide that the IAEA will apply its material accounting and inspection program to fulfill the safeguards requirements of the relevant Agreement for Cooperation. For convenience the material accounting and inspection safeguards provided by the Agreement for Cooperation will be sometimes referred to as "IAEA safeguards".

recognition that circumstances may arise in which a nation might be tempted to disregard its peaceful use assurances to the United States or other nations, and that this possibility must be contemplated in assessing the adequacy of safeguards measures aimed at forestalling use of civilian nuclear materials for military ends.[6] The imposition of such safeguards in any particular instance does not imply a lack of faith in the assurances they support. It is, rather, a recognition of the need for a measure of international discipline if nuclear energy is to be exploited in a manner consistent with international security.

In assessing the adequacy of safeguards as protection against appropriation for military purposes of nuclear material stockpiles, it is important to understand that a nation tempted to disregard its peaceful use assurances cannot be *prevented* from doing so by the safeguards systems. Rather these systems are designed, as the President pointed out last year, to sound an alarm, and thereby discourage "national diversion of nuclear material from peaceful application *by the risk of early detection." Report to the Congress Regarding Laws and Regulations Governing Nuclear Exports and Domestic and International Safeguards,* March 1975, (emphasis added). The rationale of safeguards is that the discovery by the international community of a breach of peaceful use assurance, *well before* the violator can attain an actual nuclear weapons capability, exposes him to risks of international reaction which may frustrate his purpose. Safeguards effective in this sense provide added confidence to all countries, particularly suppliers and neighbors, that a nation is not likely to violate its assurances in the first instance.

Where only the reactors and the low-enriched uranium which fuels them are involved, material accounting and inspection safeguards can provide this added margin of security because any plutonium produced by the reactors' operation is contained in spent reactor fuel and is still many time-consuming steps away from a form usable for nuclear explosives. Where, however, in addition to reactors and low-enriched fuel, a nation has access to stockpiled, separated plutonium, or to facilities which permit rapid separation of plutonium from spent fuel, the value of accounting and inspection as safeguards to deter a sudden switch from peaceful to military use is open to question. Safeguarded, or "alarmed", plutonium, although it may have been stockpiled against entirely peaceful future applications, is nevertheless but a short step away from use as an explosive. Should the owner decide, for whatever reason, on a sudden move to

---

[6] Indeed this point is expressly acknowledged in the recent *Final Environmental Statement on U.S. Nuclear Power Export Activities, supra,* by the statement that, notwithstanding obligations to the United States and, where applicable, under the NPT,

> it is impossible to say whether these considerations [arising from violation of these obligations] would outweigh a given country's perceived need to acquire a nuclear-weapons or nuclear-explosives capability. [p. 6-8].

appropriate the material for illicit purposes, the time between diversion of plutonium and completed weapons can be sharply reduced to what might be a matter of weeks, or conceivably days.[7] Under these circumstances, even if it were assumed that IAEA inspection and monitoring systems were improved to the point that they immediately and unambiguously signalled any violation, it is hard to imagine that an international reaction could be mustered before the assembly of nuclear weapons were completed. This inability to provide a sufficiently early warning to permit such a response seriously undermines the deterrent effect of accounting and inspection safeguards where separated plutonium is involved. Consequently, unless other types of controls are in place, these accounting and inspection safeguards, even if substantially upgraded, cannot perform their intended function of reinforcing peaceful use assurances and, therefore, cannot provide the additional measure of protection the United States has always sought.

As a result, there is now recognition within the United States government that mere application of IAEA safeguards is insufficient to protect readily accessible plutonium derived from U.S. exports and that additional, qualitatively new measures are required. Thus, for example, in Agreements for Cooperation currently under negotiation, the United States is seeking to obtain such additional protection, including in some cases the requirement that produced plutonium be stored outside the recipient country. Similarly, new U.S. initiatives, such as Secretary Kissinger's proposal regarding multinational fuel centers before the U.N. General Assembly in September, 1975,[8] plainly reflect the view that traditional IAEA safeguards, while vital, are insufficient in themselves where national reprocessing and stores of separated plutonium are concerned. Further evidence of this view is found in the U.S. policy against export of reprocessing facilities and of discouraging other supplier nations from doing so, even though these facilities would be covered by IAEA safeguards.

Moreover, the IAEA itself has recognized that new measures may be required to safeguard separated plutonium effectively and has embarked on a study of internationally supervised storage of spent fuel, multinational fuel cycle centers, and similar schemes.

Whatever may have been the role of IAEA safeguards in the past, therefore,

[7] The time span between diversion and weapons is most sharply reduced where the diverting nation has on hand a stockpile of separated plutonium for in this context material could be removed from the stockpile and rapidly combined with previously fabricated components to make nuclear explosive devices. Such a plutonium stockpile could be legally amassed both by nations with domestic reprocessing facilities and by those who have had spent fuel reprocessed abroad and its separated, constituent elements returned. Nations possessing large scale reprocessing facilities, moreover, would inevitably have significant inventories of plutonium at one or another stage of the fuel cycle, which together would effectively constitute a stockpile of the nuclear explosive.

[8] "Building International Order," Remarks of Secretary of State Kissinger, *supra*.

it is clear that in the emerging context of reprocessing and plutonium storage IAEA surveillance of material, standing alone, is no longer accepted as adequate protection against the abrupt appropriation of nuclear material for military purposes. In essence, certainty as to the whereabouts and current status of stockpiled nuclear explosives does not offer security against their future misuse.

With this background in mind, let me now turn to the ASCO II license.

## II

I believe the crucial question which must be asked in deciding whether this export would be inimical to the common defense and security is whether effective controls will apply to any plutonium produced in this facility. In light of the particular facts and circumstances of this case, I am not confident that such measures will, in fact, apply to this material and accordingly I cannot approve this license.

The U.S.-Spain Agreement for Cooperation provides that a prior U.S. approval of the reprocessing of ASCO II spent fuel must be obtained, provided such fuel was originally supplied by the U.S.[9] *Agreement for Cooperation between the United States and Spain*, March 20, 1974, T.I.A.S. 784, Article VIII(C).[10] This control is a vital supplement to Spain's assurances under the Agreement that plutonium produced in the reactor will be used only for peaceful purposes and to the IAEA safeguards which apply to the material,[11] because it permits the U.S. to impose protective measures *in addition to* the

[9] I am using "fuel supplied by the United States" to refer to material provided pursuant to U.S. Agreements for Cooperation. This would include any material enriched or fabricated in the U.S. and U.S. natural uranium enriched elsewhere.

[10] Article VIII(C) provides:

> When any special nuclear material received from the United States of America pursuant to this Agreement or the superseded Agreement requires reprocessing, or any irradiated fuel elements containing fuel material received from the United States of America pursuant to this Agreement or the superseded Agreement are to be removed from a reactor and are to be altered in form or content, such reprocessing or alteration shall be performed in facilities acceptable to both Parties upon a joint determination that the provisions of Article XI [regarding safeguards] may be effectively applied.

[11] Article XI of the Agreement provides for the application of material accounting and inspection safeguards to all material and equipment transferred to Spain under the Agreement, including plutonium produced from that material. Article XII provides that the IAEA will administer these Article XI safeguards. However, the U.S. right to approve reprocessing of U.S.-supplied fuel, contained in Article VIII, is unaffected by this transfer of authority to the IAEA.

The arrangements for IAEA application of Article XI safeguards are further described in the Agreement between the International Atomic Energy Agency, the Government of Spain and the Government of the United States of America for the application of Safeguards, ("Safeguards Agreement") December 9, 1966, T.I.A.S. 6182, as amended, June 28, 1974, T.I.A.S. 7856.

IAEA accounting and inspection system and, if necessary, to delay reprocessing until such additional measures are in place. In this way, the United States can maintain in effective line of defense against violation of peaceful use assurances where reprocessing and storage of separated plutonium are involved.

Thus with respect to the reprocessing of U.S.-supplied fuel, the United States has the authority to implement effective anti-proliferation measures. Unfortunately, the reprocessing control provisions of the Agreement would not apply to any plutonium produced in ASCO II from fuel supplied by Spain itself or by another nation, even though the material was produced in a reactor exported by this country. In this event, the only reinforcement of Spain's peaceful use assurances would be that provided by IAEA safeguards under the IAEA-Spain-U.S. Safeguards Agreement, *supra*. Under the present terms of this trilateral accord, however, these safeguards would be the Agency's material accounting, monitoring, and inspection system which, as explained above, cannot be relied upon, in itself, to provide early warning where reprocessing and separated plutonium are concerned.[12] This is a grave matter inasmuch as it calls into question the adequacy of the protections covering plutonium produced in ASCO II by non-U.S.-supplied fuel.[13]

The possibility that non-U.S.-supplied fuel may be used in the reactor is attested to by the record before us.[14] Indeed, over one-third of the uranium fuel enrichment services for which Spain has apparently contracted are to be purchased from non-U.S. suppliers.[15] While Spain has an enrichment contract

---

[12] This is not to imply that such safeguards would not be based upon sound analysis of material flow, diversion possibilities, and similar techniques, but rather that the early warning effectiveness of material accounting and inspections, as such, is necessarily limited in this context because of the collapsed time frame for translating separated plutonium into ready explosives.

[13] My colleagues argue that the IAEA would withhold its approval of reprocessing if it found these traditional safeguards were inadequate in this setting and that the Agency might impose "other measures, perhaps of a different character," Commission Decision, p. 751, if need be. As discussed below, I do not share their confidence in this regard.

[14] See Commission Decision, p. 749.

The Department of State has stated that "... it is possible—but not totally assured—that ASCO II will be fueled only with U.S.-supplied material...." (See letter from Dixon Hoyle, Office of Oceans and International Environmental and Scientific Affairs, Department of State, to Benjamin Huberman, Director, Office of Policy Evaluation, Nuclear Regulatory Commission, April 22, 1976.)

[15] See Prepared Statement of Dr. Robert C. Seamans, Hearings on Export Reorganization Act (S. 1439) before the Senate Committee on Government Operations, April 30, 1975. Spain had at that time contracted for about 9,000 metric tons of separative work from non-U.S. sources. (The annual separative work requirement for a 1000 megawatt reactor is about 100 metric tons.)

Spain also plans indigenous mining and milling operations. See Remarks of Manuel Isla, Director General ENUSA (Spanish equivalent of ERDA/NRC) delivered at AIF Conference on the Nuclear Fuel Cycle, Stockholm, Sweden, October 28-30, 1975.

with the U.S. which is earmarked for ASCO II, there is no requirement that the reactor be fueled exclusively with U.S.-supplied material. Thus Spain will have the option to use non-U.S.-supplied fuel in ASCO II and consequently to produce plutonium not subject to U.S. reprocessing controls.

Moreover, the possibility that Spain may seek to reprocess ASCO II fuel, regardless of its origin, is by no means unlikely. Spain has already shipped spent fuel to Great Britain for reprocessing and some plutonium has actually been separated from it, although none has yet been returned to Spain. There are indications, in addition, that Spain has long-range plans to develop a domestic reprocessing industry.[16]

All these factors add up to the possibility that ASCO II fuel will be reprocessed outside U.S. controls and subject only to traditional IAEA material accounting and inspection safeguards, which in this context would not be effective in the sense I have used this term.

In these circumstances Spain's failure to join the Treaty on the Non-Proliferation of Nuclear Weapons takes on added significance. Adherence to the Treaty not only enhances a country's bilateral peaceful use assurances, since it constitutes a renunciation of nuclear explosives manufacture;[17] it also broadens the effectivenss of IAEA safeguards by insuring that *all* of a country's nuclear activities—including indigenously designed and constructed facilities—will be safeguarded, thereby permitting comprehensive cross-checks on recordkeeping and inventories by the IAEA which administers the Treaty's safeguards provisions. The potential for unsafeguarded facilities remains in such non-signatory nations as Spain, and comprehensive application of the IAEA accounting and inspection program is thus defeated. It is true that even universal accounting and inspection safeguards would not, in themselves, provide the type of protection which I believe is required in the context of reprocessing; nevertheless, taken together with the assurances embodied in the Treaty, they would place this licensing action in a more favorable light.

It is not, of course, U.S. policy to confine exports to NPT parties. But when, as in this case, adherence to the Treaty and its accompanying comprehensive safeguards system is lacking, we are obliged to place greater reliance on the controls provided in our bilateral Agreement.

As I stated at the outset, I am not opposed to the export of this reactor, as such, but only to its export under the conditions I have outlined. Had my colleagues acted to eliminate the deficiency in this license I would have voted to approve it. The deficiency might easily have been remedied by conditioning the

[16] *Weekly Energy Report*, May 31, 1976; p. 6-7.

[17] Inasmuch as Spain to date has only tacitly agreed not to use U.S.-supplied material and equipment to manufacture so-called peaceful nuclear explosives, the express renunciation of such explosives provided through ratification of the NPT would be particularly reassuring here.

license to require exclusive use of U.S.-supplied fuel in the reactor. Since Spain already has numerous enrichment contracts with the Energy Research and Development Administration (ERDA), one of which is, in fact, earmarked for ASCO II, such a commitment would impose little, if any, cost on Spain and might readily have been given.[18]

My colleagues, however, have not even asked the State Department to seek an informal indication from the Spanish authorities as to how they would receive a request for such a commitment, apparently as a result of the State Department's assertion that

> . . . any effort to obtain [firmer] assurances that ASCO II would be fueled only with U.S.-origin enriched uranium . . . would result in protracted negotiations, the outcome of which cannot be predicted.

Letter from Dixon Hoyle, Office of Oceans and International Scientific and Environmental Affairs, Department of State, to Benjamin Huberman, Director, Office of Policy Evaluation, Nuclear Regulatory Commission, April 22, 1976. The State Department does not suggest that they could not be obtained but only that "protracted negotiations" would be required. The mere likelihood of negotiations, however, should not be a basis for this Commission's allowing a potentially important safeguards loophole to go unclosed.

My colleagues emphasize that only two years ago the U.S.-Spain Agreement was approved by the President and reviewed by the Congress. Commission Decision, p. 755. The implication is that it is therefore improper to seek to impose controls beyond those expressly provided in that instrument. But the Agreement is a flexible accord which by its terms contemplates that export requirements will evolve as circumstances warrant. Indeed Article II(A) states that the Agreement shall be subject to "the applicable laws, regulations and license requirements in force in [the signatories'] respective countries." Since the Agreement's signing, significant developments regarding the application of safeguards have, in fact, arisen, making it appropriate, in my view, to employ the license requirement provision of the Agreement to condition this export.[19]

It should also be recalled that satisfaction of the minimum requirements set forth in our Agreements for Cooperation permits nuclear cooperation but does

---

[18] This license condition, it should be noted, need not necessarily be permanent, nor need it necessarily apply to future licenses to Spain. The circumstances which I believe call for such a license condition today for this export to Spain may well change in the future.

Similarly, whether comparable license conditions would be appropriate for reactor exports under our Agreements for Cooperation with nations other than Spain would depend on the totality of factors present in each such case.

[19] Specifically, following the Indian nuclear explosion, which took place within weeks of the signing of the U.S.-Spain Agreement, intensive official activity led to a searching examination of the efficacy of systems designed to prevent the plutonium produced in civil nuclear programs from finding its way into nuclear explosives.

not require it, as noted in the recent Final Environmental Statement on U.S. Nuclear Power Export Activities, *supra.*, prepared by the Energy Research and Development Administration, with NRC participation:

> Although the agreements provide the essential framework for exports and represent an undertaking in good faith by the United States to cooperate in the field of nuclear power in accordance with the agreement provisions, they do not . . . constitute legal commitments on the part of the U.S. to furnish nuclear materials or reactors, or to conclude SNM supply contracts. [p. 3-93.]

My colleagues suggest I have improperly prejudged the efficacy of the safeguards "framework" applying to the reprocessing of non-U.S. fuel irradiated in the ASCO II reactor. They reason that the right of the IAEA "to determine that adequate safeguards can be applied to plutonium reprocessing *before* it occurs provides a mechanism to protect U.S. national security interests," Commission Decision, p. 750 (emphasis in original), inasmuch as approval of reprocessing would be withheld until effective measures against diversion were implemented. There is "no basis for concluding that the IAEA will do an inadequate job of making its required [reprocessing] safeguards determination," they argue. Commission Decision, p. 752. Since the IAEA Statute would allow application of safeguards measures in addition to material accounting and inspection, the majority conclude that "the means exist" for the IAEA to make its determination "in harmony" with U.S. interests, Commission Decision, p. 751.[20] Without knowing how the Agency will, in fact, make this determination in the case of Spain, the majority finds it "premature to judge in advance. . .that the IAEA safeguards framework will be inadequate to make a sound determination." Commission Decision, p. 751.

If it is premature for me to judge this question in advance, it is equally premature for the majority to do so. The basis for my judgment that traditional IAEA safeguards, no matter how improved, cannot by themselves give sufficient warning of a sudden appropriation of a national plutonium stockpile clearly stands on firmer ground. To say that "the means exist" for the IAEA to arrive at a similar conclusion and that it will therefore do so and refuse permission to reprocess is no more than the majority's unsupported speculation. I believe that speculation is not enough if we are to relinquish control over reprocessing to the IAEA: we must be *confident* that the Agency, in making its determination as to safeguards adequacy, will in fact bar reprocessing unless or until further measures can be implemented. It is no reflection on the Agency to observe there is as yet little basis for confidence that it will take this position with respect to reprocessing ASCO II fuel; indeed present indications are to the contrary.

[20] Nowhere, however, does the majority determine that the safeguards applying to the plutonium produced in ASCO II will, in fact, be adequate, a point to which I will return.

In the first place, the Agency is now conducting a preliminary review of safeguards for two reprocessing facilities—the Indian Tarapur Reprocessing Facility, and the Tokai-Mura plant in Japan. There are no signs in either case that the IAEA is considering anything but implementation of monitoring, accounting and inspection techniques; or that measures to preclude the stockpiling of separated plutonium under national control—such as deposit with the Agency of any plutonium in excess of India's or Japan's peaceful needs under Article XII(A)(5) of the IAEA Statute—are being actively considered; or that the Agency will withhold its approval of the safeguards on these facilities until such measures are in place.

In making its review in the Indian case, the IAEA is applying the conventional safeguards enbodied in INFCIRC/66/Rev. 2, that is, the material accounting and inspection program applicable to nations which have not subjected their entire nuclear program to Agency safeguards by adherence to the NPT. INFCIRC/66/Rev. 2 would also apply to any Agency determination on reprocessing of non-U.S.-supplied ASCO II fuel.[21] In the case of Japan, the IAEA review is being undertaken within the context of INFCIRC/153,[22] which delineates the material accounting and inspection programs to be applied in nations with all their nuclear facilities under IAEA safeguards. Thus in the only two instances arising to date, the IAEA's implementation of the relevant "safeguards framework"—a framework which is virtually identical to that which, insofar as we can predict, will apply to ASCO II—provides no basis for the majority's assumption that measures of the type I believe necessary to the protection of plutonium will be applied by that international body.

The fact that the Agency has not yet progressed beyond its accounting and inspection systems and continues to regard them as a satisfactory basis for safeguarding reprocessing and stored plutonium was further demonstrated by the IAEA Board of Governors on February 23, 1976. At that meeting two trilateral agreements—one among IAEA, France and Pakistan,[23] the other among the Agency, West Germany and Brazil,[24] and both providing for IAEA safeguards

[21] Article 20 of the IAEA/U.S./Spain Safeguards Agreement states that the safeguards to be applied by the Agency are those "specified in Part III of the Safeguards Document", which is defined as Agency document INFCIRC/66/Rev. 2. (September 16, 1968). Part III of INFCIRC/66/Rev. 2 describes the IAEA material accounting and inspection system, but does not provide for the imposition of any further measures.

[22] INFCIRC/153, The Structure and Content of Agreements between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (June 1974).

[23] Agreement of 26 February 1976 between the International Atomic Energy Agency, the Government of the French Republic and the Government of the Islamic Republic of Pakistan for the Application of Safeguards (INFCIRC/___).

[24] Agreement of 26 February 1976 between the International Atomic Energy Agency, the Government of the Federative Republic of Brazil and the Government of the Federal Republic of Germany for the Application of Safeguards, INFCIRC/237. This agreement covers both reactors and fuel cycle facilities.

over reprocessing facilities—were approved. In both cases, the safeguards provisions of the agreements are based on application of INFCIRC/66/Rev. 2. One must conclude that a similar approach will be followed with respect to the Agency's future reprocessing safeguards determination on ASCO II fuel.

It is unrealistic to expect, moreover, that the IAEA, whose members include both states that sell and states that purchase reprocessing technology, would as a practical matter adopt measures as stringent as those desired by the United States, which has prohibited exports of this technology and has discouraged such transactions by others. Experience with international agencies, which operate with the forebearance and support of their members, indicates that innovative action is not the rule, and that charters are administered circumspectly and with something less than all deliberate speed. To ask that the IAEA veto the reprocessing of spent fuel owned by any one of its sovereign member nations is to place an unwarranted burden on the Agency. This view is consistent, I might add, with the numberous U.S. actions in related contexts. To cite but one example, the U.S. embargo on reprocessing technology exports—exports which would be subject to IAEA safeguards—would make little sense if this government were satisfied that the international system is ready to carry the weight of providing adequate protection over such technology.

It should be added that the reprocessing control provision inserted by the United States in the Agreement for Cooperation with Spain provides further testimony to the fact that the U.S. does not view the IAEA approval as an acceptable substitute. The U.S. has deliberately held on to its own controls *despite* the fact that IAEA approval will be required for the reprocessing of *both* U.S. and non-U.S. fuel.

There would be no purpose served by the reservation of this added control were the IAEA determination regarded as equivalent to that of the United States. This particular reservation of U.S. control contrasts sharply with U.S. willingness to transfer responsibility to the Agency for administering other safeguards rights under the U.S.-Spain Agreement,[25] a clear indication that the United States sees reprocessing as a special case requiring special controls.

Accordingly, while IAEA approval over reprocessing might solve the problem, it is highly unlikely that the Agency would, in fact, exercise any such authority in the foreseeable future.

My colleagues note the desirability of "the most stringent [U.S.] safeguards controls possible over fuel reprocessing." They acknowledge that this activity "raises special problems of timely detection and uninterrupted monitoring," and express a keen awareness that "the need to improve . . . safeguards will continue." Commission Decision, pp. 750, 751, 752.. Yet they believe it is "pre-

[25] *See*, U.S.-Spain Agreement for Cooperation, Article XII, providing that the safeguards rights accorded in Article XI of the Agreement will be suspended and that in their place the IAEA will administer its safeguards to material and equipment transferred under the U.S.-Spain accord.

mature", Commission Decision, p. 751, at this juncture to judge whether a safeguards program meeting these high standards will be applied to the reprocessing of non-U.S.-supplied ASCO II fuel; indeed nowhere do they make a finding that such will be the case.

In my view, the majority's reliance on the uncertain course of IAEA's future role is not a permissible substitute for a specific determination that adequate safeguards and related measures will apply to non-U.S. ASCO II fuel. Nor is it a sufficient basis for the requisite statutory finding that this export will not be inimical to the common defense and security.

The very fact that the concerns I have expressed will emerge only in the future underscores the need to retain U.S. control over ASCO II fuel against the time when reprocessing is contemplated, so that we will then have the authority to implement such measures as are deemed advisable. It is well to remember that once lost, control is almost certainly irretrievable. The course the majority has chosen relinquishes our safeguards options prematurely. I believe the preservation of these options is required by our statutory mandate to insure that no exports are licensed which, for want of adequate safeguards, would be inimical to the common defense and security.

As a final matter, my colleagues argue that even if the Commission were to find that the safeguards applying to the ASCO II reactor were inadequate, to attempt to plug this particular loophole would be an exercise in futility. They point out, in effect, that the horse is out of the barn already, because our predecessors in the Atomic Emergy Commission licensed eight reactor exports to Spain to which the condition I am suggesting specifically for ASCO II would not extend without further action.

Any correction of this situation, even were it possible, is regarded by the majority as being of limited usefulness in any event, since Spain could purchase reactors not subject to such requirements from other suppliers.[26] This leads in turn to the conclusion that only by joint action with other suppliers and through international negotiations on a broad front can effective controls over reprocesssing and plutonium storage be achieved;[27] in the meantime, the majority

[26] This view would appear to be somewhat at variance with the confidence expressed elsewhere by the majority that other suppliers could be depended upon to apply reliable safeguards:

> Moreover, we cannot ignore the fact that other supplier nations, whose policies on nuclear exports embrace "special conditions governing the use of retransfer of sensitive material, equipment or technology," have demonstrated an interest in assuring that fuel they supply will not contribute to the development of nuclear explosives in recipient countries.

Commission Decision, p. 752, quoting Henry A. Kissinger before Senate Committee on Government Operations, March 9, 1976.

[27] Notwithstanding these protestations, the majority indicates that it would, however, take unilateral action were "unacceptable risks" posed by an export. Apparently, the majority feels that in this context such action would be effective, though they claim it cannot be where what they regard as lesser risks are at issue.

sees little opportunity for the Commission to rectify the situation in regard to specific license applications before it. This approach will have the effect, as can be seen in the case of ASCO II, of wedding the NRC to the export conditions of the past—or to those of other suppliers. I do not believe the Congress intended the NRC to overlook current deficiencies because their remedy would not apply to earlier, unchallenged transactions. It contributes nothing to the solution of the broader problems to continue on the course that helped create them in the first place.

There are obvious limitations on what can be accomplished within the scope of any individual licensing review.[28] But the Atomic Energy Act requires us to examine *each* license as it comes before us for review and determine whether effective safeguards and related measures will be applied to that particular export and to all nuclear explosive material it may be used to generate.

On the basis of the foregoing, I believe the ASCO II license should not be approved in its present form. The uncertainties surrounding the origin of the fuel to be used in the reactor and, consequently, the adequacy of the safeguards which will be applied to the reprocessing of such fuel, when considered against the background of Spain's failure to join the NPT—or, lacking that, to bring all its nuclear activities under international safeguards—preclude the required finding that the proposed export would not be inimical to the common defense and security.

[28] The license condition I have proposed would not "shift the ASCO II problem" to the U.S. reactors previously supplied to Spain, Commission Decision, p. 755, for the condition could easily be satisfied by applying U.S. fuel from contracts now earmarked for *future* reactors. This could be done without in any way affecting the fuel supply of previously licensed reactors.

UNITED STATES OF AMERICA ALAB-331
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. John H. Buck
Michael C. Farrar

In the Matter of Docket No. STN 50-482

KANSAS GAS AND ELECTRIC COMPANY
and KANSAS CITY POWER AND
LIGHT COMPANY

(Wolf Creek Nuclear Generating
Station, Unit No.1)

Upon appeal by the applicants from that portion of the Licensing Board's May 18, 1976 order (LBP-76-19) denying them authorization to construct a railroad spur to the plant site prior to the grant of a limited work authorization (LWA), the Appeal Board affirms the Licensing Board's conclusion that construction of the spur is prohibited by the interdiction of 10 CFR 50.10 (c) against substantial action adversely affecting the environment of the plant site prior to the completion of the facility's environmental review.

Upon review *sua sponte*, the Appeal Board affirms that portion of LBP-76-19 authorizing pre-LWA construction of an access road and relocation of another road.

RULES OF PRACTICE: APPELLATE REVIEW

For purposes of appeal under 10 CFR 2.762 (a), an order which constitutes a final resolution on the merits of a request for licensing board authorization to engage in certain activities before a limited work authorization (LWA) or construction permit is issued may be treated as the equivalent of a partial initial decision which, on the basis of an evidentiary record, makes or declines to make the findings requisite to the issuance of an LWA.

RULES OF PRACTICE: APPELLATE REVIEW

In accordance with 10 CFR 2.761a, a partial initial decision which paves the way for the issuance of a limited work authorization is an "initial decision" within the intendment of 10 CFR 2.762 (a).

REGULATIONS: INTERPRETATION

In determining whether a particular activity is permitted by a section of the Commission's regulations, the focus should be upon the effectuation of the Commission's purpose in enacting that section.

REGULATIONS: PRE-LWA ACTIVITY

10 CFR 50.10 (c) permits only that pre-limited-work-authorization activity with so trivial an impact that it can be safely said that no conceivable harm would have been done to any of the interests sought to be protected by NEPA should the application for the facility ultimately be denied.

REGULATIONS: PRE-LWA ACTIVITY

For purposes of authorization of pre-limited-work-authorization activity under 10 CFR 50.10 (c), it is of no moment whether any harm resulting from such activity would be of a permanent character. That section does not import the concept of redressability.

NUCLEAR REGULATORY COMMISSION: ENVIRONMENTAL RESPONSIBILITIES

The Commission's independent NEPA responsibilities are not enlarged or decreased by the presence or absence of an intervenor's complaint.

**Messrs. Jay E. Silberg** and **Gerald Charnoff,** Washington, D.C., for the applicants, Kansas Gas and Electric Company, *et al.*

**Mr. Stephen H. Lewis** for the Nuclear Regulatory Commission staff.

## DECISION

## June 8, 1976

**Opinion of the Board by Mr. Rosenthal, in which Mr. Farrar joins:**

By a divided vote, this Board previously held in this construction permit proceeding that the applicants need prior Commission approval to build, off their own property, a plant access road and a railroad spur to service the Wolf

Creek facility. ALAB-321, NRCI-76/4 293 (April 7,1976).[1] All three members of the Board agreed, however, that there are avenues of possible relief available to an applicant which desires to obtain approval to commence building transportation routes in advance of the receipt of either a limited work authorization (LWA) or a construction permit for the facility itself. One of these avenues was suggested to us by the fact that what the relevant Commission regulation proscribes in the absence of at least an LWA is "any clearing of land, excavation or other substantial action that would adversely affect the environment of a site". 10 CFR 50.10 (c).[2] As we saw it, "[w]hile in many circumstances construction of transportation routes will 'adversely affect the environment' ", Section 50.10 (c) left it

> open to an applicant to attempt to demonstrate to the Licensing Board that its particular proposal will not occasion any such effects. If an applicant can do so, either on summary judgment or after a hearing, it should be able to obtain a ruling from the Board that it may proceed—of course at its own risk—in advance of a ruling on the LWA. This procedure would avoid unnecessary delay; at the same time it would both preserve the substantive values intened to be protected by NEPA and afford the procedural protection of preventing construction until a licensing board had the opportunity to scrutinize the applicant's proposal.

NRCI-76/4 at 314-315; footnotes omitted.

The applicants thereafter elected to pursue this option. Following an evidentiary hearing on the matter of the extent of the environmental impact which would be occasioned by construction of the access road and railroad spur, the Licensing Board entered an order on May 18, 1976 in which it authorized construction of the road alone. LBP-76-19, NRCI-76/5 652. [3] In its view, the controlling test for Section 50.10 (c) purposes was (as the NRC staff had urged) whether the activities in question would have more than a "de minimis" environmental impact. On the basis of the record before it, the Board concluded that the construction of the road would not. With respect to the railroad spur, however, the opposite conclusion was reached principally because construction would divert approximately 150 acres of productive farmland.

Although none of the parties to the proceeding challenges the ruling on the access road, the applicants have appealed the denial of authorization to con-

[1] By order of May 26, 1976, the Commission announced its election to review ALAB-321 but indicated that that decision was being left in effect pending the outcome of the review.

[2] This proscription is subject to certain express exceptions, none of which is applicable here.

[3] That order also was left in effect when the Commission elected to review ALAB-321 (see fn. 1, *supra*).

struct the railroad spur. Explicitly acknowledging that the environmental impact of such construction "will be greater than 'de minimis' ", the applicants maintain that is not the appropriate standard. Rather, they assert, the purportedly less restrictive "standard of 'negligibility' (i.e., something more than 'de minimis' but less than 'significant')" should have been employed "in order to determine whether [railroad spur] construction may proceed in advance of a construction permit or limited work authorization". In this instance, we are told, the record shows that the proposed construction would have only a "negligible" impact upon the environment even though the removal of about 150 acres from present or potential agricultural production would be involved.

For its part, the staff urges that we affirm both the standard invoked by the Licensing Board and the result reached by the Board upon the application of that standard. No briefs were filed by the intervenors in the proceeding, neither of whom seems to have assumed an active role at any stage of this particular controversy.

A. At the threshold, we must consider whether the May 18 order is appealable as a matter of right under 10 CFR 2.762 (a). We resolve that question in the applicants' favor. Although not denominated a partial initial decision, [4] in substance that order constitutes a final resolution on the merits of the applicants' request for licensing board authorization to engage in certain activities before an LWA or construction permit is issued. In the circumstances, it seems to us that, for the purposes of Section 2.762 (a), the order properly may be treated as the equivalent of a partial initial decision which, on the basis of an evidentiary record, makes or declines to make the findings requisite to the issuance of an LWA.[5]

B. As earlier noted, the applicants have cast the issue presented by their appeal in terms of the correctness of the "de minimis" test used by the Licensing Board in determining whether the construction of the railroad spur would "adversely affect the environment of [the Wolf Creek] site" within the meaning of 10 CFR 50.10 (c). In arguing that the Board should have employed a less stringent standard, the applicants rely heavily upon language in Mr. Farrar's opinion for the Board in ALAB-321 and in this writer's separate opinion, dissenting on a different issue. Specifically, the applicants point to the statement in the majority opinion to the effect that the various avenues of relief identified

[4] Section 2.762(a), the sole provision of the Rules of Practice authorizing appeals of licensing board action, refers to "initial decisions" alone. A partial initial decision paving the way for the issuance of an LWA is an "initial decision" within the intendment of that Section. See 10 CFR 2.761a.

[5] We have previously recognized that the question of appealability hinges upon the nature of the order and not the label which it bears. See *Consumers Power Co.* (Midland Plant, Units 1 and 2), ALAB-122, 6 AEC 322 (1973), holding particular discovery orders to be appealable because they had all the attributes of finality insofar as the appellants were concerned.

therein (including the one here-involved) would be available if "the environmental consequences of constructing the [access road and railroad spur] are, in fact, *insignificant*". NRCI-76/4 at 314; emphasis supplied. This was understood by me to mean that the applicants might obtain relief "if, as they claim, the construction of the spur and road would have *negligible* environmental impact". *Id.* at 316, fn. 1; emphasis supplied.[6]

We do not share the applicants' perception of an important—indeed, in this case crucial—distinction between, on the one hand, "de minimis" and, on the other, "insignificant" and "negligible". [7] Conceivably, a skilled practitioner of the linguistic art might discern different shades of meaning in the various terms. But any such differences appear to be of quite microscopic proportions. Webster tells us, for example, that that which is "negligible" is that which is "so tiny or unimportant or otherwise of so little consequence as to require or deserve little or no attention".[8] Not much distance must be traversed before one comes to that which is "de minimis"—*i.e.*, "very small" or "trifling". [9] Nor, proceeding in what the applicants consider to be the other direction, must one travel very far to arrive at that which would qualify as "insignificant"—*i.e.*, of "no importance" or of "little size or importance".[10]

In these circumstances, the Licensing Board's ruling respecting the railroad spur might be susceptible of affirmance simply on the basis of the applicants' concession that the environmental impact of its construction would be more than "de minimis". We prefer, however, to look upon the issue before us as involving something more than a semantic exercise. We are concerned with the application of a regulation which, in the implementation of the National Environmental Policy Act, prohibits an applicant from taking certain types of action prior to the completion of the full environmental review mandated by the Act. Surely, in determining whether a particular activity falls on one side or the other of the dividing line between what 10 CFR 50.10 (c) allows and what it does not, the focus should be upon the effectuation of the Commission's purpose in enacting the Section rather than upon doubtful distinctions among synonymous words.

---

[6] In alluding once again at the end of my opinion to this question, I spoke in terms of "*no consequential* environmental impact". *Id* at 322; emphasis supplied.

[7] Although not saying so in as many words, the staff likewise appears to believe that such a distinction exists.

[8] *Webster's Third New International Dictionary* (1971), p.1514. The other definitions provided in that source are to the identical effect: "that can or should easily be disregarded; * * * that is of so little substance or extent or worth as to be practically nonexistent and so requiring or deserving little or no attention or respect".

[9] *Black's Law Dictionary* (Rev. 4th Ed.), p. 487; *National Labor Relations Bd.* v. *Suburban Lumber Co.*, 121 F. 2d 829, 832 (3rd Cir. 1941).

[10] *Webster's, supra*, at 1169.

Read most literally, Section 50.10 (c) might well be taken to foreclose "clearing of land, excavation or other substantial action" so long as there would be any associated adverse environmental impact no matter how small. In ALAB-321, we implicitly rejected such an interpretation as unduly narrow. It seemed to us then, as it does now, that the authors of the regulation could not possibly have had a "zero impact" standard in mind. For one thing, few, if any, "substantial actions" pertaining to the construction of a nuclear facility will be totally devoid of adverse environmental impact; even the displacement of a single blade of grass is an event which has some ecological meaning. Thus, adoption of a "zero impact" standard would strip the qualifying phrase "adversely affect the environment of a site" of any real content. Beyond that, such a standard would appear to fly in the teeth of the "rule of reason" which is to be applied in the execution of the NEPA command. *Natural Resources Defense Council* v. *Morton*, 458 F.2d 827, 834 (D.C. Cir. 1972); *Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), ALAB-260, 1 NRC [11] 51, 54 (1975) and cases there cited. In terms, that statute is addressed to federal action "significantly affecting the quality of the human environment". 42 U.S.C. 4332 (2) (C). Irrespective of what may have been the legislative understanding of the precise import of "significantly", it is manifest that Congress was establishing a quantitative measure insofar as the environmental impacts within the reach of NEPA are concerned.

But these considerations hardly advance the applicants' cause here. For the railroad spur which they desire to construct does not even come close to presenting a "zero impact" situation. The Licensing Board found on undisputed evidence that the spur is to be 12.8 miles in length, utilizing a right-of-way ranging in width from 80 to 190 feet. Sixty percent of the approximately 150 acres of land which would be taken for this purpose is now employed as cropland (on which soybeans, wheat, hay, sorghum and corn are produced). All but six acres of the remainder is range land, primarily devoted to the raising of beef cattle. A total of 31 tracts of land would be bisected by the spur, which would also cross a number of small creeks and three farm ponds. NRCI-76/5 at 654, 655.

It may well turn out that, following the completion of the full NEPA review of the Wolf Creek project still in progress, the Licensing Board will determine with justification that these environmental costs are of insufficient magnitude to defeat the project; *i.e.*, that they do not *per se* tip the overall cost/benefit balance against the construction of a nuclear plant at the proposed site.[12] That

[11] "NRC" refers to the bound volumes incorporating the contents of the NRCIs issued on a monthly basis in paperback form. The first such volume, No. 1, was recently published and embraces NRCI-75/1 through NRCI-75/6.

[12] In this instance, it does not appear that there are available alternatives to construction of the railroad spur assuming that the Wolf Creek facility is to be built at its now proposed location.

is, however, not a decisive factor in the application of 10 CFR 50.10 (c). The purpose of that Section is not merely to insure that, in advance of an LWA, no construction activities take place which might have enough environmental impact to require an outright rejection of the construction permit application or the resort to some other available alternative to those activities. In addition, the Section was quite obviously promulgated with an eye to the possibility that, for some other reason, the facility might not be authorized. Were that contingency to materialize, the adverse environmental impact of any construction activities previously undertaken would have been incurred for naught.

Stated otherwise, the question at hand is not whether, viewing the nuclear project in its totality, it is likely that the adverse environmental impact occasioned by the building of the railroad spur ultimately would be found to be acceptable. It is rather whether the spur can be built with so trivial an impact that it can be safely said that no conceivable harm would have been done to any of the interests sought to be protected by NEPA should the eventual outcome of this proceeding be a denial of the Wolf Creek application.[13] To us it is manifest that a negative answer is required. Whatever word might be most appropriately invoked to delineate the governing standard—"insignificant," "negligible," "de minimis" or yet another term of much the same thrust—, we are in total agreement with the Licensing Board that the taking of almost 150 acres of productive farmland, and the bisecting of an appreciable number of tracts with ribbons of steel almost thirteen miles in length, just cannot be dismissed as

[13] In this connection, as the applicants themselves appear at least implicitly to recognize, it is of no moment whether any such harm necessarily would be of a permanent character. 10 CFR 50.10 (c) does not import the concept of redressability; *viz.*, it does not provide that pre-LWA construction activities are permissible so long as, if need be, any associated environmental damage can be redressed at a later date. In contrast, the provisions of 10 CFR Part 50 pertaining to the grant of exemptions from regulatory requirements do expressly make reference to redressability. See 10 CFR 50.12 (b)(2). See also, *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4), ALAB-184, 7 AEC 229, 234-236 (1974).

Nor is it crucial whether any of the landowners have raised their voices in formal protest. The Commission's independent NEPA responsibilities are not enlarged or decreased by the presence or absence of an intervenor's complaint. Moreover, there are many reasons apart from a lack of concern which might prompt local interests to eschew becoming actively involved in the adjudication of a particular dispute on an environmental issue. To cite two such possible reasons: insufficient financial resources and a willingness to rely upon the Commission's staff to advance all relevant considerations.

beyond the pale of the Section 50.10 (c) interdiction against "substantial action that would adversely affect the environment of [the Wolf Creek] site".[14]

---

The May 18, 1976 order of the Licensing Board is *affirmed*.[15]
It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

---

[14] It is quite true, as the applicants point out, that at the time of the rendition of ALAB-321, we were aware that the railroad spur would utilize about 150 acres of land. But the specific environmental effects of such utilization did not become fully illuminated until the evidentiary hearing conducted in the wake of that decision—the Final Environmental Statement for the facility was relatively uninformative in that regard. Further, after outlining the several procedures which the applicants might invoke in an effort to obtain pro-LWA approval to build the road and spur, we said in ALAB-321:

> Needless to add, we intimate no opinion whether the applicants will prevail if they invoke one of these procedures. The roads are open, however; whether the applicants can travel them successfully depends on the strength of their case.

NRCI-76/4 at 315. What we decide here is simply that the applicants' case on the railroad spur turned out to be not strong enough.

[15] In the absence of an appeal therefrom, we have reviewed *sua sponte* that portion of the Licensing Board's May 18 order which authorized the pre-LWA construction of the access road and the relocation of Federal Assist Secondary Route 10. There appears to be ample record support for that Board's finding that the environmental impact attendant to construction of the roads would be considerably less than that involved in construction of the railroad spur. More particularly, the project calls for essentially only the improvement of existing public roads. All things considered, we see no reason to disturb the conclusion that the roads may be now built without offending 10 CFR 50.10 (c).

**Dr. Buck, dissenting:**

While I adhere to the views which I expressed in my partial dissent in ALAB-321 (NRCI-76/4 at 323-327), I recognize both that the substantive views of the majority of the Board in that decision have not, as of this date, been overturned and that, unless and until that happens, those views must govern further proceedings in this case.[1] Nevertheless, it is my view that the majority here is seriously and unwarrantedly limiting the scope of the procedures which they themselves sanctioned in ALAB-321. I read those procedures as permitting construction of the railroad spur here. Therefore, I must respectfully dissent.[2]

1. The standard against which we are asked to measure the applicants' request to begin construction of the roads and railroad spur is derived from the language of the Commission's rules, which prohibit—prior to the completion of the full National Environmental Policy Act (NEPA) review of a facility application—any "clearing of land, excavation or other *substantial* action that would *adversely affect* the environment of a site". 10 CFR 50.10 (c), emphasis supplied. The rationale for concluding that such a standard would permit the construction of at least some transportation routes to and from the site prior to completion of the full environmental review of the facility, and the nature of the inquiry which must be undertaken before authorizing such construction, is outlined in Mr. Farrar's opinion for the Board in ALAB-321 (NRCI-76/4 at 314-315). This rational is repeated by the majority here (p. 773, *supra*), and need not again be rehearsed. Suffice it to say that there are some construction activities with environmental impacts so slight that a formal NEPA review of them is not mandated.[3] As noted in ALAB-321, the relative cost of the permissible activities must be so low, compared to the total cost of the project, that there would not be a commitment of funds and resources that might "prejudice the outcome of pending NEPA reviews". NRCI-76/4 at 315, fn. 36.

The real problem comes in attempting to draw a line as to which activities are permissible under this standard and which are not. My colleagues here have correctly concluded that something more than "zero impact" is contemplated (*supra*, p. 776). ALAB-321 fails to quantify acceptable impacts, although Mr. Farrar's opinion for the Board refers to those impacts as being "insignifi-

[1] As the majority notes, the Commission has elected to review ALAB-321 and, pending such review, has not stayed it.

[2] I agree with my colleagues that the Licensing Board's May 18, 1976 order is appealable. I also join my colleagues in their *sua sponte* determination (fn. 15, p. 778, *supra*) not to disturb the Licensing Board's conclusion that construction of the access road and the relocated FAS-10 may now be commenced.

[3] See *Trustees of Columbia University in the City of New York*, ALAB-50, 4 AEC 849, 864-69 (1972), affd., *Morningside Renewal Council, Inc.*, v. *AEC*, 482 F. 2d 234 (2d. Cir. 1973), cert. denied, 417 U.S. 951 (1974).

cant" (NRCI-76/4 at 314); and Mr. Rosenthal, in his separate opinion (concurring with Mr. Farrar in this respect), described them as "negligible" and the activities giving rise to them as being of "no consequential environmental impact" (*id.* at 316 (n.1), 322).[4] My colleagues, in their ruling on the railroad spur, now appear to have narrowed substantially the scope of activities which their own language in ALAB-321 would apparently have found to be permissible under 10 CFR 50.10 (c).

The majority expressly limits such activities to those "with so trivial an impact that it can be safety said that no conceivable harm would have been done to any of the interests sought to be protected by NEPA" (*supra*, p. 777). And they circumscribe the scope of permissible activities even more by both a narrow reading of what activities fall therein (*i.e.*, are deemed "trivial") and a failure to recognize the relevancy of redress of impacts in ascertaining whether the standard has been satisfied. I disagree with these limitations.

2. Since the relevant standard precludes only those actions which are both "substantial" and "adversely affect" the environment of a site, it is necessary in applying the standard first to examine the nature of the proposed activity and its environmental impacts. The impact of construction itself—the dust, smoke and noise—was described by witnesses of both the applicants and staff as minor and temporary, for either the railroad spur or the roads (Tr. 4956, 4965; applicants' prepared testimony, fol. Tr. 4887, at pp. 5, 8, 9). That was not the reason for the staff's opposition to the railroad spur. Rather, that opposition focused upon two types of impacts: the taking of land out of otherwise useful production, and the inconvenience to the farmers whose property would be traversed by the railroad (Tr. 4965).[5]

The importance of the inconvenience factor has largely been minimized by applicants' offer to construct grade crossings to accommodate the wishes of the affected farmers and hence to mitigate any potential inconvenience (Tr. 4975); further, the farmers are being well paid for any inconvenience they might suffer (*id.*). Finally, they have not complained to us about the inconvenience which the railroad might cause (or, for that matter, any other effect of the spur). Aside from the very real question whether such inconvenience may be regarded as an environmental effect to be considered under NEPA, there is scarcely any reason here for giving it any weight.[6]

---

[4] In ALAB-321 I sanctioned the particular approach which my colleagues were endorsing—albeit for different reasons—but expressed no view as to the quantum of impact which could be allowed.

[5] No families will be relocated (applicants' prepared testimony, p. 8).

[6] Inconvenience to a particular person or category of persons would not create the type of question which we would normally review without a specific request to do so. *Cf. Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-242, 8 AEC 847 (1974); *Boston Edison Co.* (Pilgrim Nuclear Power Station Unit 1), ALAB-231, 8 AEC 633 (1974).

The only real impact which could be of significance here—and indeed the only one which my colleagues considered in their decision not to authorize construction of the railroad spur—is that of taking land out of production (including the bisecting of various tracts by the rails). [7] Approximately 143 acres will be required for the 12.8 mile railroad spur, of which 66% (94 acres) is cropland and 26% (37 acres) is range and pasture (applicants' prepared testimony, p.8 and table 3; Tr. 4974). This acreage is a small fraction of the 10,500 acres to be utilized for the site (Tr. 4966) and the affected rangeland and cropland is a minute fraction of the rangeland (0.00015%) and cropland (0.00078%) in the affected county (applicants' prepared testimony, p. 8). The land usable for agricultural purposes is not unique in any way (Tr. 4900); it has been characterized as "typical of farmland in the area" (Tr. 4972). Furthermore, not all of the 143 acres will be lost to farming. The applicants plan to take that amount of land for their right of way (which extends from 80-190 feet in width, with an average of 115 feet). But they indicate that they will not fence the right of way unless the owner so requests and that a farmer can utilize the land right up to the roadbed if he so desires (Tr. 5019). Moreover, where the railroad crosses the better farmland in the area, for approximately half that distance it utilizes land next to the property boundary, thus reducing the bisection of tracts (Tr. 4974-75).

Finally, it should be noted that the applicants have denominated the railroad spur as a "critical path construction item" (Motion for Determination * * *, dated December 9, 1975, p.2) and have emphasized that a consequence of delay in its completion will be that a greater amount of construction equipment will have to be brought in by truck or, if by rail, will have to be unloaded and hauled 12 to 15 miles by truck to the construction site (Tr. 5040-41). This in itself would not only create added costs but, due to additional heavy truck traffic, would also "adversely affect the environment". *Cf. City of New York* v. *U.S.*, 337 f. Supp. 150, 159 (E.D.N.Y. 1972) (three-judge court).

The net yield of production from all the farmland and grazing land collectively has been estimated at only $10,000 annually ($60-$100 per acre)(Tr. 4981-82). For this the farmers were paid $2000 per acre (Tr. 4974). The total cost to the applicants for the entire railroad spur is $5,586,103 (Tr. 4983), a small fraction of the $950,000,000 cost of the entire project (Tr. 4899).

By way of contrast, the roads which the applicants are being permitted to construct will require the taking of an additional 61 acres (beyond that used for the roads already in existence) (Tr. 4901). The roads will cost $3,583,047 (Tr. 4983).

---

[7] Notwithstanding the import which my colleagues apparently attach to the bisecting or fragmentation question, the parties' witnesses addressed that question solely in terms of convenience to the farmers. Tr. 4961-63, 4965, 4974-75. See also fn. 6, *supra*.

Given these facts, the construction of the railroad spur appears clearly to qualify under the applicable standard. The activity is not a substantial one which can truly be characterized as adversely affecting the environment. And its cost is so low that it could not, in my view, affect the outcome of the pending environmental review. In short, the project must be adjudged as trivial.

3. My colleagues, however, disagree. So the next step in my analysis is to evaluate whether any environmental impacts occasioned by construction of the railroad spur may reasonably be redressed, if such redress should be needed.

The question of redress is significant, since it apparently was the permanency of the environmental impact of the railroad spur which played a large part in the formulation of the staff's position (accepted by the Licensing Board and by my colleagues) that the spur should not now be authorized. Thus, the staff witness repeatedly pointed out that the environmental impact of the railroad spur would be "permanent" (Tr. 4964, 4965, 4969). On cross-examination, he explained this view as follows (Tr. 4969):

> Well, any old railroad beds that I have seen are always still there. The rail, I assume, would be moved if there is a value to it. However, the grade elevation is normally never removed and that is the way it stays. And I assume that this would be the case here also.

But he thereafter conceded that, if the plant were not to be built, the land could be restored essentially to its original condition (*id.*).

My colleagues eschew any inquiry into the question of redressability, on the basis that the relevant regulation (10 CFR 50.10 (c)) fails to import that concept—*i.e.*, "does not provide that pre-LWA construction activities are permissible so long as, if need be, any associated environmental damage can be redressed at a later date". See p. 777, fn. 13, *supra.* They contrast the regulation with another (10 CFR 50.12 (b)(2)) which explicitly does so. There is a ready explanation, however, for the difference. The latter section is a positive authorization for the grant of exemptions from regulatory requirements and includes specific prerequisites which must be considered prior to the grant of an exemption. In contrast, Section 50.10 (c) positively grants no authority whatsoever for the conduct of pre-LWA construction activities but rather generally bars certain of those activities. The permissibility of other pre-LWA activities under that section stems not from a positive grant of authority but rather from a failure to bar all activities. That being so, it is scarcely surprising that the section fails to address any standards (such as redressability) for the activities it does not foreclose.

In my view, the regulatory bar of activities with an adverse environmental impact necessarily requires consideration of redressability, particularly in the context of evaluating activities where the adversity, if any, appears to be marginal. For redressability appears to be a necessary component of the concept of adversity; certainly any impacts which can be readily redressed should be considered in a different light from those which cannot be, at least in the

context of determining whether to permit particular short-term activities pending the completion of a full environmental review.

Moreover, there are other regulatory provisions which do not specify redressability as a factor to be considered but where the context of the situation has led to its consideration. For example, in evaluating the issuance of an LWA, where redressability is also not specifically mentioned, at least one licensing board has found it appropriate to consider redressability in the event a construction permit should later be denied. *Commonwealth Edison Co.* (Byron Station, Unit 1 and 2), LBP-74-87, 8 AEC 1006, 1008-09 (1974); *Commonwealth Edison Co.* (Braidwood Station, Units 1 and 2), LBP-75-1, 8 AEC 1197, 1200-01 (1975).[8]

This is not to say that redressability will in all cases validate substantial construction activities on the basis that later they can, if need be, be redressed. The cost of those activities, and of redressing them, will always be a factor. And, under the standard we are following, the consequences of the impact prior to any attempted redress must also be considered.

Here, both the applicants and staff agree that the purely temporary impacts occurring prior to the potential grant of an LWA (such as dust, smoke and noise) will be trivial and insignificant. It is only the permanency of the taking of land which has caused any question about the applicants' authority under the regulation to begin construction of the railroad spur. As to that, redressability is clearly relevant and should be considered.

The evidence on redressability in this record is meagre. But since the staff witness conceded (without challenge) that impacts of the railroad spur could be corrected, I am prepared to accept that conclusion. And, given this additional factor, I would conclude that the impact of building the spur is not only insignificant and negligible in comparison to the overall impact of the project but in the absolute sense is in fact "de minimis".

4. The record includes considerable discussion about whether or not the right of way sought by the applicants is wider than necessary. The applicants explained that engineering considerations dictated the width of the right of way, but they committed themselves to explore whether in certain areas a lesser taking of land might be possible. The Commission's regulations dealing with exemptions provide that, during the period of any exemption, "any activities conducted shall be carried out in such a manner as will minimize or reduce their environmental impact". 10 CFR 50.12 (b). This requirement, as the one of redressability, should also be applied to work permitted under 10 CFR 50.10 (c). In this case, the applicants should be required to determine the least amount of land needed, consistent with sound engineering practices, to construct the

[8] In affirming these decisions on the basis of our *sua sponte* review, we found no occasion to comment upon this aspect of the Board's decisions. ALAB-312, NRCI-76/2 91 (February 5, 1976).

railroad and should only be authorized to use that amount of land for the railroad spur, pending completion of the full environmental review of the project.

---

I would authorize the applicants to construct the railroad spur prior to receipt of an LWA, subject to the following requirements: (1) in the event a construction permit is denied, and assuming that the railroad is not to be imminently used for other appropriate purposes, the spur is to be removed and the land restored as closely as possible to its original condition; (2) any activities conducted under this authorization are to be carried out in such a manner as will minimize or reduce their environmental impact; and (3) any activities carried out under this authorization are to be entirely at the risk of the applicants and are to have no bearing upon the issuance of an LWA or construction permit.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-332

## ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Richard S. Salzman
Jerome E. Sharfman

**In the Matter of**

| | |
|---|---|
| THE TOLEDO EDISON COMPANY and THE CLEVELAND ELECTRIC ILLUMINATING COMPANY | Docket Nos. 50-346A 50-500A 50-501A |
| (Davis-Besse Nuclear Power Station, Units 1, 2 & 3) | |
| THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, et al. | Docket Nos. 50-440A 50-441A |
| (Perry Nuclear Power Plant, Units 1 and 2) | |

The Licensing Board assigned to hear this antitrust proceeding (the Antitrust Board) decided that a motion to disqualify a law firm representing a party should be granted and preferred charges against the firm which were sent to a special board, as required by 10 C.F.R. §2.713(c). The Special Board dismissed the charges but the Antitrust Board disagreed with its conclusions and suspended the firm, although it stayed its order pending review. Upon certification, the Appeal Board rules that: (1) the Commission has jurisdiction to disqualify a law firm for unprofessional conduct; (2) disqualification is the appropriate remedy where an attorney formerly represented a party with interests adverse to that of his present client in a substantially related matter and the former client protests the present representation; (3) in considering whether to prefer charges, the antitrust board should determine only whether the allegations of misconduct state a case for disqualification; (4) the special board has the ultimate responsibility for determining the disqualification issue; (5) the former client need not show that specific confidences were or would be breached or that the information he imparted to the attorney could not be obtained elsewhere; (6) the law firm charged with misconduct is entitled under 10 C.F.R. §2.713(c) to a full evidentiary hearing with all parties having the right to present evidence and conduct cross-examination; and (7) the law firm's offer to waive a hearing had lapsed because it was conditioned on a reciprocal offer by the moving party to close the record which never materialized.

Case remanded.

**RULES OF PRACTICE: DISQUALIFICATION**

A licensing board before which a motion to disqualify an attorney or law firm under 10 C.F.R. §2.713(c) is made should determine only whether the allegations made by the moving party, if true, would make a case for disqualification. In the event that its determination is affirmative, it should refer the motion to a special board, without commenting on the merits of the claim or on the probity of any documents or affidavits which may have accompanied the motion papers.

**RULES OF PRACTICE: DISQUALIFICATION**

A special board convened pursuant to 10 C.F.R. §2.713(c) to consider whether an attorney should be disqualified must base its decision on a preponderance of the evidence.

**RULES OF PRACTICE: DISQUALIFICATION**

A special board convened pursuant to 10 C.F.R. §2.713(c) is not bound by the conclusions of the initial board as to the legal sufficiency of the allegations; a preliminary decision is not *res judicata.*

**RULES OF PRACTICE: DISQUALIFICATION**

A special board convened pursuant to 10 C.F.R. §2.713(c) has complete authority to dispose of the disqualification motion. Once the special board has rendered its decision, the initial board's function is limited to the carrying out of the ministerial duty of promptly entering an order giving effect to the special board's decision.

**ADMINISTRATIVE TRIBUNALS: JURISDICTION**

An administrative agency has authority to make rules and regulations necessary for the execution of its functions and to take disciplinary action against attorneys found guilty of unethical or improper professional conduct.

**DISQUALIFICATION: STANDARDS**

In an action to disqualify its former attorney from representing an adversary in a pending action, a former client need not demonstrate that specific confidences were breached but only need show that there is a substantial relationship between the issues in the pending action and the subject matter of the former representation.

DISQUALIFICATION: STANDARDS

The disclosure or use by an attorney of information obtained by virtue of former employment is not made proper because such information is not confidential or is available through other sources.

DISQUALIFICATION: STANDARDS

If the question as to whether there is a substantial relationship between the subject matter of a former representation and the issues in the pending case is a close one, it should be resolved in favor of the former client in order to avoid even the appearance of impropriety.

RULES OF PRACTICE: DISQUALIFICATION

An attorney or law firm charged with misconduct under 10 C.F.R. §2.713 (c) is entitled to a full evidentiary hearing, with all parties having the right to present evidence and conduct cross-examination.

RULES OF PRACTICE: DISQUALIFICATION (BURDEN OF PROOF)

If an attorney or law firm charged with misconduct under 10 C.F.R. §2.713(c) demands a hearing, the party which moved for disqualification has the burden of proof and must go forward initially with the presentation of its evidence.

RULES OF PRACTICE: DISQUALIFICATION (DISCOVERY)

The Commission's discovery rules are applicable to a hearing convened pursuant to 10 C.F.R. §2.713(c).

**Mr. Michael R. Gallagher,** Cleveland, Ohio, argued for Squire, Sanders and Dempsey.

**Mr. James B. Davis,** Cleveland, Ohio, argued for the City of Cleveland; with him on the briefs were **Messrs. Vincent C. Campanella,** Director of Law and **Robert D. Hart,** First Assistant Director of Law of the City and **Reuben Goldberg, Arnold Fieldman** and **David C. Hjelmfelt,** of Washington, D. C.

**Mr. Joseph Rutberg,** argued for the Nuclear Regulatory Commission Staff; with him on the brief were **Messrs. Benjamin H. Vogler, Roy P. Lessy, Jr.** and **Jack R. Goldberg.**

## DECISION

## June 11, 1976

**Opinion of the Board by Mr. Sharfman in which Mr. Rosenthal and Mr. Salzman join:**

This case involves a motion to disqualify a law firm from representing a party in a proceeding before a Commission Licensing Board because of its prior representation of another party to that proceeding in allegedly related matters. Basically, the issues are whether the law firm's continued representation in this proceeding would violate accepted standards of professional ethics and whether the proceedings before the Licensing Boards were properly conducted.

The case is one of first impression under Section 2.713 of the Rules which govern practice before the Commission in adjudicatory proceedings (10 C.F.R. §2.713). That Rule provides in part:

> (b) *Standards of conduct.* An attorney shall conform to the standards of conduct required in the courts of the United States.
>
> (c) *Suspension of attorneys.* A presiding officer may, by order, suspend or bar any person from participation as an attorney in a proceeding if the presiding officer finds that such person:
>
> (1) Is not an attorney at law in good standing admitted to practice before any court of the United States, the District of Columbia, or the highest court of any State, territory, or possession of the United States;
>
> (2) Has failed to conform to the standards of conduct required in the courts of the United States;
>
> (3) Is lacking in character or professional integrity;
>
> (4) Engages in dilatory tactics or disorderly or contemptuous conduct; or
>
> (5) Displays toward the Commission or any of its presiding officers conduct which, if displayed toward any court of the United States, would be cause for censure, suspension, or disbarment.
>
> Any such order shall state the grounds on which it is based. Before any person is suspended or barred from participation as an attorney in a proceeding, charges shall be preferred by the presiding officer against such person and he shall be afforded an opportunity to be heard thereon before another presiding officer.

The vice alleged here would fall within the ambit of subsection (c)(2) of the regulation.

The underlying proceeding involves antitrust issues arising under Section 105c of the Atomic Energy Act, 42 U.S.C. §2135(c). The City of Cleveland, a party adverse to the Cleveland Electric Illuminating Company ("CEI"), moved to disqualify the Cleveland law firm of Squire, Sanders & Dempsey ("SS&D"),

along with its Washington affiliate, from acting as attorneys for CEI or any other applicant in this proceeding. The grounds were that SS&D has represented the City for many years as bond counsel, sometimes in matters affecting the City's Municipal Electric Light Plant ("MELP") which is a competitor of CEI; that the firm had also represented CEI on past occasions and in this proceeding and, in so doing, advanced interests adverse to the interests of MELP; that SS&D never made full disclosure to the City of the conflicts of interest inherent in its representation of CEI in matters adverse to MELP as required by Disciplinary Rule 5-105 of the American Bar Association's Code of Professional Responsibility;[1] and that the City never consented to SS&D's representation of CEI in such matters. The City also argued that Mr. Daniel O'Loughlin, a partner in SS&D, had been an important official of the City's Law Department before coming to SS&D and, in that capacity, might have obtained information which would be useful to CEI in the present antitrust proceeding or had responsibility for matters substantially related to this proceeding. The City therefore argued that the representation of CEI by SS&D in the antitrust proceeding is in violation of the Code of Professional Responsibility and should be proscribed. SS&D took the position that there is no substantial relationship between the matters handled by SS&D as bond counsel for the City and its representation of CEI in the antitrust proceeding before the Commission. It also raised the defense that the City had consented to the dual representation and had therefore waived its right to object to it.

The motion to disqualify was made to the Licensing Board which is hearing the antitrust proceeding ("the Antitrust Board"). It was argued before that Board on the basis of briefs, documents and affidavits submitted by the parties but without any evidentiary hearing. SS&D took the position that the Antitrust

---

[1] That rule provides:

(a) A lawyer shall decline proffered employment if the exercise of his independent professional judgment in behalf of a client will be or is likely to be adversely affected by the acceptance of the proffered employment, except to the extent permitted under DR 5-105(c).

(B) A lawyer shall not continue multiple employment if the exercise of his independent professional judgment in behalf of a client will be or is likely to be adversely affected by his representation of another client, except to the extent permitted under DR 5-105(C).

(C) In the sitatuion covered by DR 5-105(A) and (B), a lawyer may represent multiple clients if it is obvious that he can adequately represent the interest of each and if each consents to the representation after full disclosure of the possible effect of such representation on the exercise of his independent professional judgment on behalf of each.

(D) If a lawyer is required to decline employment or to withdraw from employment under DR 5-105, no partner or associate of his or his firm may accept or continue such employment.

Board had no power under Section 2.713(c) to grant the motion; that, if it found the motion to be meritorious, it had to prefer charges against SS&D and refer the matter to a Special Board before which SS&D would have a right to be heard. Its avowed purpose before the Antitrust Board was to establish that the motion was without substance and did not warrant the preferment of charges. (Answer Brief, pp. 1-2; Tr. 2516, 2558). The City took the position that the Antitrust Board had the power to dispose of the motion itself under the general powers conferred on it by Section 2.718 of the Rules of Practice (10 C.F.R. §2.718). Neither side asked for an evidentiary hearing before the Antitrust Board.

On January 19, 1976, the Antitrust Board issued a decision which evaluated the evidence, held that SS&D should be disqualified from representing CEI in this proceeding and preferred charges against SS&D. NRCI-76/3 236. It further held that neither Section 2.713(c) nor equitable considerations require or permit SS&D to be suspended from participation in this proceeding "until such time as the presiding officer (or Atomic Safety and Licensing Board) which will review and pass upon the charges now filed advises us with respect to their validity." Board member Smith dissented. Although agreeing with the majority that the Antitrust Board has the responsibility to make findings and issue the order of suspension under Section 2.713(c), he believed that the Board should not make any findings prior to the hearing before another presiding officer. He also disagreed with the majority's opinion on the merits.

A special Licensing Board ("Special Board") was promptly appointed to hear the charges preferred by the Antitrust Board. On January 23rd, it issued a notice stating that it would hear oral argument on February 3rd. The notice added that the procedure would be the same as that which had been followed for the oral argument before the Antitrust Board. Nonetheless, on February 3rd, SS&D asked to be permitted to make an evidentiary case (Tr. 4255-57) and, although the City had moved to limit the hearing to oral argument, the Special Board initially decided (Tr. 4271-72) to permit SS&D to put in its evidence. During the rest of that morning, the Board received oral and documentary evidence from SS&D. After the lunch recess, the Board changed its mind; it decided to limit the parties to oral argument and struck all of the evidence it had received in the morning. (Tr. 4342-69). SS&D then made an offer of proof as to what its evidence would have shown. (Tr. 4369-91). The remainder of the proceedings before the Special Board consisted of oral argument.

The Special Board issued its decision on February 24, 1976. NRCI-76/3 259. It first held (*Id.* at 262-63) that Section 2.713(c)(2)

> was intended by the Commission to relate solely to unprofessional conduct directly interfering with the conduct of the Commission's license proceedings, and was never intended to open the Pandora's Box of Commission review over all professional conduct or the intricacies of past lawyer-client relationships, particularly where there are already professional grievance

committees and courts that have the unquestioned jurisdiction and expertise to explore such 'mere appearance of impropriety' relationships, and to fashion a more lasting remedy.

It went on to hold that there is no multiple representation in this proceeding and that, even if there were prohibited multiple representation in it, the proper remedy would be for SS&D to withdraw from representation of the City. *Id.* at 263-66. It further held that, even if disqualification were an appropriate remedy, it could not be applied in the absence of "hard evidence or injury-in-fact or at least evidence of specific 'confidences' that were breached." *Id.* at 264 n. 10. For these reasons, the Special Board found no evidence of unethical conduct by SS&D "in the record before us" and ordered the preferred charges dismissed and the suspension of counsel vacated. *Id.* at 266-67. Board Member Luton wrote a separate concurring opinion in which he (1) agreed with the majority's holding that the Commission lacks jurisdiction over this matter, (2) concluded that the alleged improprieties relied on by the Antitrust Board are not substantially related to this antitrust proceeding and (3) found that the facts evidence no impropriety on the part of SS&D. *Id.* at 267-76.

On March 19, 1976, the Antitrust Board issued another order. LBP-76-11, NRCI-76/3 223. It held that, while the Board which prefers charges under Section 2.713(c) must "give great deference" to the Special Board's decision prior to taking any action on an order of suspension, final authority on the question of suspension rests with the initial Board. It opined that the Special Board was correct in not permitting the parties to introduce any evidence in addition to what had earlier been presented to itself. It disagreed with the Special Board's conclusion that the Commission lacks jurisdiction to suspend attorneys on the grounds of prior representation of parties adverse to the client which it now represents before the Commission. It also disagreed as a matter of law with the Special Board's statement that there had to be proof of injury or "specific proof of the passing of confidential, nonpublic information from one client to another" before relief could be granted. Finally, it disagreed with the Special Board's conclusion that there is no "evidence" of unethical conduct by SS&D. The Antitrust Board therefore ordered SS&D suspended but stayed its order pending review by this Board.

The Antitrust Board provided for such review by certifying four questions to this Board under 10 C.F.R. §2.718(i). By our order of March 19, we accepted the certification, broadened the scope of review by adding three additional questions[2] and also permitted the parties to "raise any additional points in favor

[2]The Board's questions were:

(1) Whether the jurisdiction of the NRC under Rule 2.713 extends to situations covering attorney conduct outside of the NRC forum which has an impact on representation within that forum. (Footnote continued on next page)

[of] or against the result below even though not encompassed within the certified questions."[3]

## I. THE ROLES OF THE RESPECTIVE LICENSING BOARDS

Much of the procedural difficulty in this case has arisen from the fact that Section 2.713(c) requires two different licensing boards to play a role in a proceeding for suspension or disbarment of an attorney from a particular case before the Commission. Our first task, therefore, is to clarify what their respective roles should be.

The first problem arises from the requirement that the initial board must prefer charges against the attorney or law firm. The procedure for such a preferment would be fairly obvious if the basis for suspension were contumacious conduct of the attorney in the course of a hearing before the initial board. The

---

(Footnote continued from previous page)

(2) Whether the Special Board has the ultimate authority to put into effect or to vacate an order of suspension under Rule 2.713.

(3) Whether a showing of either actual injury or specific exchange of information of a confidential nature is required to enforce a finding of attorney misconduct based upon the exchange of *some* information supplied by one client of an attorney to another client of that attorney whose interests are adverse to the original client.

(4) Assuming the answer to question two is negative and three is affirmative, whether in the circumstances now before us the order of disqualification may be upheld.

Our questions were:

(1) When the City of Cleveland requested the firm of Squire, Sanders and Dempsey to represent it respecting the issuance of municipal bonds to finance construction of a new City power plant, what explanations were given to the City by the firm about potential conflicts of interest which might arise because the firm also represented its competitor, the Cleveland Electric Illuminating Company?

(2) Precisely when, by whom, and to whom were those representations made and what significance attaches to them?

(3) What (if any) bearing does the fact that the City's *lawyers* retained the firm have on the application of the Canon to this case and, in particular, did it affect the firm's obligation to "explain fully to each client the implications of the common representation and to accept or continue employment only if the clients consent"?

[3]While we need not reach the issue here, the courts have held that orders granting or denying motions to disqualify attorneys are considered to be final orders for purposes of appeal. *Fullmer* v. *Harper*, 517 F.2d 20 (10th Cir. 1975); *United States* v. *Garcia*, 517 F. 2d 272 (5th Cir. 1975); *Silver Chrysler Plymouth, Inc.* v. *Chrysler Motors Corp.*, 496 F.2d 800 (2d Cir. 1974)(en banc); *Greene* v. *Singer Co.*, 509 F.2d 750 (3rd Cir. 1971); *Yablonski* v. *United Mine Workers of America*, 454 F.2d 1036 (D.C. Cir. 1971)(dictum), *cert. denied*, 406 U.S. 906 (1972). *Contra, Chugach Electric Ass'n* v. *United States District Court*, 370 F.2d 441 (9th Cir. 1966), *cert. denied*, 389 U.S. 820 (1967) and *Cord* v. *Smith*, 338 F.2d 516 (9th Cir. 1964) which held that orders on disqualification motions are interlocutory and hence not appealable as of right but reviewed them anyway by means of extraordinary writ.

initial board, having already seen what happened in its presence, would merely record the relevant events and the conclusions which it had reached based on them. It would then refer the matter to the special board. However, where, as in the case at bar, the facts alleged in support of the motion to disqualify did not occur in the presence of the initial board, the question arises as to whether or not it should make some sort of factual inquiry or determination. The problem with doing that is that it needlessly prolongs the proceedings. As the special board clearly must have a hearing under the Rule, having the initial board receive and weigh evidence, even if it is done without a formal hearing, requires two successive fact-finding procedures and creates the possibility (which materialized in this case) of having two boards which find facts differently and come to opposite conclusions. Nothing is served by such a procedure but confusion and delay. The policy reasons which might underlie the requirement of a hearing by a special board in a case not involving contumacious conduct, such as the greater objectivity which a board having nothing to do with the main case may have or the freeing of the initial board to continue with the conduct of the main proceeding while the motion is beind adjudicated,[4] are not served by having the initial board also act as a factfinder.

How, then, are we to give meaning to that portion of the Rule which requires the preferment of charges by the initial board? Clearly, the rule requires some kind of preliminary analysis of the moving party's position before the preferment of charges. But that need not and, if the goal of expeditious adjudication is to be served, should not involve a weighing of the evidence. The first board should simply determine whether the allegations made by the moving party, if true, would make a case for disqualification.[5] Its function would be like that of a United States district court in deciding whether a complaint states a claim upon which relief can be granted on a motion to dismiss under Rule 12(b)(6) of the Federal Rules of Civil Procedure. If it decides that the allegations do state a claim for disqualification, it should merely refer the motion to a special board, without commenting on the merits of the claim or on the probity of any documents or affidavits which may have accompanied the motion papers. It need not compose any "charges" of its own, for that would serve no useful purpose and might prevent the moving party from being able to delineate its own motion. This interpretation of Section 2.713(c) avoids the convening of a special board to hear motions which are unmeritorious on their face but eliminates the delay and needless expense to the parties of duplicative fact-finding proceedings.

---

[4]This might not always be the case. In some situations, equity may require that the main proceeding be halted pending resolution of the disqualification motion.

[5]In this task, it would be guided by the ABA Code of Professional Responsibility, as interpreted by the Federal Courts.

Under Section 2.713(c), the charged attorney or firm is entitled to be heard. (We will deal later with the question of what kind of a hearing that must be.) At the conclusion of the hearing, the special board should proceed to decide the motion on the basis of the evidence adduced before it. Its decision must be based on a preponderance of that evidence. *Charlton* v. *Federal Trade Commission*, ___ F.2d ___ 38 Ad. L. 2d 379 (D.C. Cir. 1976). In its decision as to the law, the special board is not bound by the conclusions of the initial board as to the legal sufficiency of the allegations; a preliminary decision is, of course, not *res judicata*.

The two Boards in the case at bar differed as to which of them had the final say on the disqualification motion. The Antitrust Board's position is supported by a literal reading of Section 2.713(c) for, when it begins by saying that "a presiding officer may, by order, suspend * * *", the Rule seems to be talking about the regular board which is sitting in the case, as distinguished from the special board which holds the hearing. However, this must be taken to mean only that the initial board, which has the main case before it, must enter the order of suspension. It does not mean that the initial board should control the decision. If, as appears to us to be the case, the purpose of the Rule is to have a special board take the evidence, it follows that the special board is the appropriate tribunal to decide the merits. That being so, to construe the Rule so as to give the initial board the power to overrule the special board's decision would be inconsistent with that purpose. We therefore hold that the special board must render a decision disposing of the disqualification matter in its entirety and that the initial board's function thereafter is limited to the carrying out of the ministerial duty of promptly entering an order giving effect to the special board's decision.

It follows from what we have said that the Antitrust Board should not have decided the motion in its initial decision (although we think it fair to treat that decision as a determination that the allegations of the motion were legally sufficient and warranted a referral to the Special Board) and that it should not have acted inconsistently with the Special Board's decision after it was rendered. The question remains, however, as to whether the Special Board's decision was correct. We therefore proceed to a consideration of that question.

## II. ERRORS OF LAW IN THE SPECIAL BOARD'S OPINION

The Special Board made three significant errors of law in its majority opinion. We will discuss them *seriatim*.

### A. THE COMMISSION'S JURISDICTION OVER PROFESSIONAL CONDUCT WHICH AFFECTS COMMISSION PROCEEDINGS

The Special Board held that it lacked jurisdiction over a motion seeking to

disqualify an attorney for a party in a Commission proceeding by reason of prior representation of an opposing party in substantially related matters not involving the Commission. The Board said (NRCI/76-3 at 262-63, footnote omitted):

> To put it affirmatively, we believe the general language '* * * failed to conform to the standards or conduct required in the courts' [§2.713(c)(2)] was intended by the Commission to relate solely to unprofessional conduct directly interfering with the conduct of the Commission's license proceedings, and was never intended to open the Pandora's Box of Commission review over all professional conduct or the intricacies of past lawyer-client relationships, particularly where there are already professional grievance committees and courts that have the unquestioned jurisdiction and expertise to explore such 'mere appearance of impropriety' relationships, and to fashion a more lasting remedy. We believe the intended emphasis of the Commission's rule is on the presiding officer's power to control the orderly course of an NRC public administrative hearing. It is not, we believe, a general, supervisory role over all attorneys practicing before it to see that complete equity is always being done with their clients, and that all ABA canons are scrupulously being adhered to, even in behind-the-scenes multiple relationships, involving the interplay of other transactions, other clients, and other non-NRC litigation.[6]

Other than its own analysis, the Special Board cites no authority for its position. In our judgment, its analysis is faulty. It is well settled that an administrative agency "has implied authority under its general statutory power to make rules and regulations necessary for the execution of its functions * * * and to take disciplinary action against attorneys found guilty of unethical or improper professional conduct." *Schwebel* v. *Orrick*, 153 F. Supp. 701, 704 (D.D.C. 1957), *aff'd per curiam on other grounds*, 251 F.2d 919 (D.C. Cir.), *cert. denied*, 356 U.S. 927 (1958); *accord*, *Herman* v. *Dulles*, 205 F.2d 715 (D.C. Cir. 1953). Section 2.713(c) of the Commission's rules provide for the suspension of an attorney from participation in a proceeding if he "[h] as failed to conform to the standards of conduct required in the courts of the United States." The cases are legion in which the federal courts have entertained motions to disqualify an attorney in a particular case "if he formerly represented an adverse party in a matter substantially related to the pending litigation." ABA Formal Opinion 342 (Nov. 24, 1975), reprinted in 62 A.B.A.J. 517 (April 1976), and the authorities cited in Part II C of this opinion. The Commission, therefore, certainly has jurisdiction (*i.e.*, authority) to grant the same type of relief on a meritorious

[6] Counsel for SS&D conceded before us the Commission's jurisdiction over "attorney conduct outside the NRC forum which has an impact on representation within that forum" so long as "there is a 'substantial relationship' between prior attorney conduct and the NRC proceeding." (Brief of April 1, 1976 at pp. 22-23).

motion to disqualify an attorney that the federal courts are accustomed to grant and a Licensing Board hearing the motion under Section 2.713(c) has the duty to apply the same standards that would be applied "in the courts of the United States."

The Special Board's conclusion that the subject matter of the City's motion has nothing to do with the antitrust proceeding before the Commission reveals a basic misapprehension of the problem. To be sure, it is not for the Commission to punish SS&D for some past asserted wrongdoing, such as its alleged advancement of the interests of CEI before Cleveland's Little Hoover Commission in 1966 (even were we to assume that that was improper).[7] However, SS&D's representation of CEI in the antitrust proceeding before the Commission is indeed something that the Commission may and should deal with if, because of a prior representation of the City in a substantially related matter, such representation would violate the standards of conduct applicable in the federal courts. The Commission clearly has the power to regulate practice before it and indeed has done so by promulgating a standard of conduct in its Rules of Practice. 10 C.F.R. §2.713(b) and (c)(2). Had the Commission wanted to limit attorney suspension to cases of contumacious conduct, it would have expressly so limited its rule. Moreover, contrary to the view of the Special Board, we fail to see how the theoretical basis for the decisions of the federal courts in attorney disqualification cases (whether it be the avoidance of the appearance of impropriety or of impropriety itself) has anything at all to do with the Commission's power to enforce the same standards of attorney conduct which are enforced by those courts.

## B. THE REMEDY

The Special Board also erred in concluding that even if a violation of the Code of Professional Responsibility were shown, disqualification of SS&D from the representation of CEI in this proceeding would be an improper remedy under the ABA Code. Rather, it is the remedy universally applied in matters of this nature in the federal courts, as the ABA's own summary of existing case law demonstrates (Formal Opinion 342, *supra*, at 517, footnote omitted):

> A lawyer violates D.R. [Disciplinary Rule] 4-101(B) [of the Code of Professional Responsibility] only by knowingly revealing a confidence or secret of a client or using a confidence or secret improperly as specified in the rule. Nevertheless, many authorities have held that as a procedural matter a lawyer is disqualified to represent a party in litigation if he formerly represented an adverse party in a matter substantially related to the pending litigation. Even though D.R. 4-101(B) is not breached by the mere act of accepting present employment against a former client involving a matter

[7] See the Antitrust Board's initial opinion, *supra*, at 240-41 and the concurring opinion of Special Board Member Luton, *supra*, at 269-70 and 273-74.

substantially related to the former employment, the procedural disqualification protects the former client in advance of and against a possible future violation of D.R. 4-101(B).

The ABA opinion goes on to explain the reason why disqualification is the appropriate remedy as follows (*Id.* at footnote 6):

> If this device of a procedural disqualification based upon the substantial relationship of the subject matter of the two employments were not used, the remedy would be either, first, an after-the-fact disciplinary action in which the issue is whether a particular confidence or secret was actually revealed or used improperly, or second, a procedural disqualification based upon the fact issue of whether confidences or secrets were actually revealed in the first employment that are so revelant that they are likely to be revealed or used during the second employment. The "substantially related" test is less burdensome to the client first represented and is less destructive of the confidential nature of the attorney-client relationship. See *Emle Industries, Inc.* v. *Patentex, Inc.*, 478 F.2d 562, 571 (2d Cir. 1973), in which it is pointed out that an inquiry, on a procedural motion to disqualify, into actual confidences "would prove destructive of the weighty policy considerations that serve as the pillars of Canon 4 of the code" and that if the procedural disqualification were not used as a prophylactic measure, a lawyer might unconsciously or intentionally use a confidence or "out of an excess of good faith, might bend too far in the opposite direction, refraining from seizing a legitimate opportunity for fear that such a tactic might give rise to an appearance of impropriety." *Cf.* E.C. 5-14, C.P.R.

If the theory of the case should ultimately rest on Canon 9 rather than Canon 4 or 5,[8] however, the remedy sought here would still be proper. "Disqualification is an appropriate sanction for enforcement of Canon 9." *Telos, Inc.* v. *Hawaiian Telephone Co.*, 397 F. Supp. 1314, 1315-16 (D. Hawaii 1975).

## C. THE NECESSARY ELEMENTS OF A CASE FOR DISQUALIFICATION OF AN ATTORNEY

The Special Board held in footnote 10 of its opinion that, even if the

---

[8]The Code of Professional Responsibility consists of Canons, Ethical Considerations and Disciplinary Rules. "The Canons are statements of axiomatic norms, expressing in general terms the standards of professional conduct expected of lawyers * * *". Preliminary Statement to Code. Each Canon is interpreted by Ethical Considerations which "are aspirational in character" and Disciplinary Rules which are mandatory. *Ibid.* Canon 4 states: "A lawyer should preserve the confidences and secrets of a client". Canon 5 states: "A lawyer should exercise independent professional judgment on behalf of a client". This canon covers conflict of interest situations. Canon 9 states: "A lawyer should avoid even the appearance of professional impropriety".

remedy of disqualification were authorized, it should not be granted without "hard evidence of injury-in-fact or at least evidence of specific 'confidences' that were breached". That is not the law. As was said 23 years ago by Judge Weinfeld in *T.C. Theatre Corp.* v. *Warner Bros. Pictures*, 113 F. Supp. 265, 268 (S.D.N.Y. 1953):[9]

> I am not in accord with Mr. Cooke that Universal is required to show that during the Paramount litigation it disclosed matters to him related to the instant case. Rather, I hold that the former client need show no more than that the matters embraced within the pending suit wherein his former attorney appears on behalf of his adversary are substantially related to the matters or cause of action wherein the attorney previously represented him, the former client.[10]

---

[9] *Accord, Silver Chrysler Plymouth, Inc.* v. *Chrysler Motors Corp.*, 518 F.2d 751 (2d Cir. 1975); *Emle Industries, Inc.* v. *Patentex, Inc.*, 478 F.2d 562 (2d Cir. 1973); *Richardson* v. *Hamilton International Corp.*, 469 F.2d 1382, 1385 (3rd Cir. 1972), *cert. denied*, 411 U.S. 986 (1973); *American Can Co.* v. *Citrus Feed Co.*, 436 F.2d 1125 (5th Cir. 1971); *Chugach Electric Ass'n* v. *United States District Court*, 370 F.2d 441 (9th Cir. 1966), *cert. denied*, 389 U.S. 820 (1967); *Cord* v. *Smith*, 338 F.2d 516 (9th Cir. 1964); *Consolidated Theatres, Inc.* v. *Warner Bros. Circuit Management Corp.*, 216 F.2d 920, 924-25 (2d Cir. 1954); *Cannon* v. *U.S. Accoustics Corp.*, 398 F. Supp. 209 (N.D. Ill. 1975); *Marketti* v. *Fitzsimmons*, 373 F. Supp. 637, 639 (W.D. Wisc. 1974); *Motor Mart, Inc.* v. *Saab Motors, Inc.*, 359 F. Supp. 156 (S.D.N.Y. 1973); *E.F. Hutton & Co.* v. *Brown*, 305 F. Supp. 371, 394-95 (S.D. Tex. 1969); *Shelley* v. *The Maccabees*, 184 F. Supp. 797, 800 (E.D.N.Y. 1960); *Marco* v. *Dulles*, 169 F. Supp. 622, 629-30 (S.D.N.Y. 1959), *appeal dismissed*, 268 F.2d 192 (2d Cir. 1959); *Fleischer* v. *A.A.P., Inc.*, 163 F. Supp. 548 (S.D.N.Y. 1958), *appeal dismissed sub nom. Fleischer* v. *Phillips*, 264 F.2d 515 (2d Cir.), *cert. denied*, 359 U.S. 1002 (1959).

[10] Judge Weinfeld set forth the reasons for the rule as follows (113 F. Supp. at 268-69, footnotes omitted):

> The Court will assume that during the course of the former representation confidences were disclosed to the attorney hearing on the subject matter of the representation. It will not inquire into their nature and extent. Only in this manner can the lawyer's duty of absolute fidelity be enforced and the spirit of the rule relating to privileged communications be maintained.
>
> To compel the client to show, in addition to establishing that the subject of the present adverse representation is related to the former, the actual confidential matters previously entrusted to the attorney and their possible value to the present client would tear aside the protective cloak drawn about the lawyer-client relationship. For the Court to probe further and sift the confidences in fact revealed would require the disclosure of the very matters intended to be protected by the rule. It would defeat an important purpose of the rule of secrecy—to encourage clients fully and freely to make known to their attorneys all facts pertinent to their cause. Considerations of public policy, no less than the client's private interest, require rigid enforcement of the rule against disclosure. No client should ever be concerned with the possible use against him in future litigation of what he may have revealed to his attorney.* * * In cases of this sort the Court must ask whether it can reasonably be said that in the course of the former representation the attorney might have acquired information related to the subject of his subsequent representation.

Lest there be any doubt, we hasten to emphasize that the "substantially related" test enunciated in *T.C. Theater* does not shift the burden of proof from the former client to the attorney sought to be disqualified. *Fleischer* v. *A.A.P., Inc., supra* note 9, at 553. "On the contrary, the former client must show that there is a 'substantial relationship' between the issues in the present case and the subject-matter of the former representation". *Ibid.*

We reject the argument made by SS&D in this proceeding, and accepted both by Antitrust Board Member Smith (NRCI 76/3 at 257) and the majority of the Special Board (*Id.* at 264 n. 10), that the alleged disclosure by SS&D to CEI of information about the City was clearly proper because the information was not confidential. As was stated in *Marco* v. *Dulles, supra* note 9, at 630:

> The disclosure or use of confidences is forbidden 'even though there are other available sources of such information'. Canon 37. And this is true '[a]lthough all of the information obtained by the attorney from his former client may be available to his present client * * *'. *Fleischer* v. *A.A.P., Inc., supra,* 163 F. Supp. at page 551.

In the same vein, the court held in *Doe* v. *A. Corp.*, 330 F. Supp. 1352, 1356 (S.D.N.Y. 1971), *aff'd per curiam sub nom. Hall* v. *A Corp.*, 453 F.2d 1375 (2d Cir. 1972):

> Canon 4 * * * looks beyond technical considerations of secrecy in the evidentiary sense and shields all information given by a client to his attorney whether or not strictly confidential in nature. The sole requirement under Canon 4 is that the attorney receive the communication in his professional capacity.

Finally, we feel constrained to point out that, if the question as to whether there is a substantial relationship between the subject matter of the former representation and the issues in the present case is a close one, it should be resolved in favor of the former client in order to avoid even the appearance of impropriety. *Fleischer* v. *A.A.P., Inc., supra* note 9, at 553; *United States* v. *Standard Oil Co.*, 136 F. Supp. 345, 364 (S.D.N.Y. 1955)(dictum). As the Second Circuit said in *Emle Industries, Inc.* v. *Patentex, Inc., supra* note 9, at 571:

> Nowhere is Shakespeare's observation that "there is nothing either good or bad but thinking makes it so," more apt than in the realm of ethical considerations. It is for this reason that Canon 9 of the Code of Professional Responsibility cautions that "A lawyer should avoid even the appearance of professional impropriety" and it has been said that a "lawyer should avoid representation of a party in a suit against a former client, where there may be the appearance of a possible violation of confidence, even though this may not be true in fact." American Bar Association, Standing Committee on Professional Ethics, Informal Opinion No. 885 (Nov. 2, 1965).

## III. THE RIGHT TO AN EVIDENTIARY HEARING

The question remains as to whether we can proceed to determine this matter on the record as it stands or whether we must remand for further proceedings. The answer to that question depends on whether or not SS&D was entitled to an evidentiary hearing before the Special Board. SS&D claims that it was entitled to such a hearing under the Due Process Clause of the Constitution, the Administrative Procedure Act and Section 2.713(c) of the Commission's Rules of Practice.

The Supreme Court long ago held that one may not be rejected for practice before an administrative agency without "such a notice, hearing and opportunity to answer * * * as would constitute due process". *Goldsmith* v. *United States Board of Tax Appeal*, 270 U.S. 117, 123 (1926). However, the law is not clear as to the precise form of hearing which due process requires even in cases involving the rights of attorneys to practice in the courts.[11] But we need not attempt to define the precise contours of due process in this case because Section 2.713(c) itself provides expressly that an attorney charged with misconduct "shall be afforded an opportunity to be heard thereon". We hold this to mean that he is entitled to a full evidentiary hearing with all parties having the right to present evidence and conduct cross-examination.

Attempts to suspend or bar attorneys from practice in a Commission proceeding—or any administrative proceeding for that matter—present issues of great sensitivity and importance. They reflect upon the honor and professional integrity of the attorneys whose suspension is sought. They could result in depriving a party of the right to be represented by the law firm which is his first choice. They seek to prevent abuse or betrayal of the attorney-client relationship. The correct resolution of cases of this type is important to the integrity of the adjudicative process. Moreover, the application of the appropriate legal criteria to the facts in such cases would be greatly aided by the detailed evidence and the opportunity to observe the demeanor of witnesses which a full evidentiary hearing provides. In a matter of this gravity, the time and effort required for such a hearing is amply justified.[12]

If the attorney or firm charged with misconduct does demand a hearing, the moving party has the burden of proof and must go forward initially with the

---

[11] Compare the three opinions in *Mildner* v. *Gulotta*, 405 F. Supp. 182 (E.D.N.Y. 1975) with the opinions of Justices Douglas and Goldberg in *Willner* v. *Committee on Character & Fitness*, 373 U.S. 96 (1963) and with the holding of the Seventh Circuit that an attorney in a disbarment proceeding should have "the opportunity to be heard in person and to present evidence and to confront and cross-examine adverse witnesses". *In re Ming*, 469 F.2d 1352, 1356 (7th Cir. 1972).

[12] As we hold that SS&D was deprived of its right to a hearing under our Rules, it is not necessary for us to consider its claim based on the Administrative Procedure Act.

presentation of its evidence.[13] The charged party then has a right to present its own evidence and the moving party may put in a case in rebuttal. Of course, the fact that the charged party has the right to a hearing does not mean that there must be a hearing in all cases. For example, the charged party may waive that right. If it does so, then all of the facts alleged by the moving party must be accepted as true. In any event, it is clear in the case at bar that SS&D insisted on having a hearing. True, SS&D initially offered to waive it when pressed to by the Antitrust Board Chairman at the first oral argument in the interest of saving time. But counsel for the City insisted on his right to conduct discovery and submit more documents (Tr. 2557-65). In the circumstances, we conclude that SS&D's offer to waive a hearing was implicitly conditioned on a similar agreement by the City to have the case submitted to the Special Board on the existing record. As such, the offer lapsed when it was rejected by the City.

Both the City and the staff urge us to decide this case based on what there is in the existing record and on the proffers of evidence made by SS&D's counsel to the Special Board, even if we should decide that SS&D had a right to a hearing which it did not waive. We decline to pursue to that course. As the Second Circuit recently observed:

> '[E]thical problems cannot be resolved in a vacuum.' [Citation omitted]. Thorough consideration of the facts * * * is required.[14]

Also instructive is *Fullmer* v. *Harper*, 517 F.2d 20 (10th Cir. 1975). There, a motion to disqualify an attorney had been denied on the basis of offers of proof and oral argument. In remanding for an evidentiary hearing, the Court of Appeals ruled (*Id.* at 21-22):

> In our view the verified motion to disqualify raises ethical questions that are conceivably of a serious nature. In such circumstance a written response should be required. The trial court should then hold a full evidentiary hearing on the issues posed by the motion to disqualify and the response thereto, which hearing should include the taking of testimony. A motion of this type should not be resolved on the basis of mere colloquy between court and counsel. At the conclusion of such hearing the trial court should then make specific findings and conclusions, to the end that this court will permit a meaningful review, should review be sought.

In this case, the record is sparse on such questions as what work SS&D did

[13] See Part IIC of this opinion. The Commission's discovery rules would be applicable as in any other case but the special board should use its power to limit discovery under 10 C.F.R. §2.740 to ensure that the proceeding is determined as expeditiously as possible, albeit consistently with the interests of justice and fairness, with a full opportunity to develop all relevant facts.

[14] *Silver Chrysler Plymouth, Inc.* v. *Chrysler Motors Corp.*, 518 F.2d 751, 753 (2d Cir. 1975).

for the city as bond counsel in 1968, 1972 and 1973; how this work is related to the present antitrust proceeding; what work Mr. O'Loughlin or his subordinates did for the City; the extent to which Mr. O'Loughlin was responsible for his subordinates' work and whether his or their work was substantially related to the present antitrust proceeding; what explanations of existing or potential conflicts of interest were made by SS&D to the City in either 1968 or 1972; what the City's state of knowledge with respect to such conflicts was when it retained SS&D as bond counsel in 1968 and 1972; and what was the scope, nature and extent of the consent (if any) given by the City in each of those years to SS&D's then-existing and potential future conflicting representation of CEI. We expect that, on the remand to the Special Board which we are now directing, the parties will offer evidence and the Board will make findings with respect to these issues.

## IV. THE WAIVER DEFENSE

SS&D's primary defense in this case seems to be that the City had full knowledge of its representation of CEI but nevertheless consented to the dual representation, thus waiving any right it might have had to object to it later. This defense is based on Disciplinary Rule 5-105(c) of the Code of Professional Responsibility which provides that, in those cases where the representation of multiple clients is prohibited because of possible conflict of interest, the lawyer may nevertheless represent them "if it is obvious that he can adequately represent the interest of each and if each consents to the representation after full disclosure of the possible effect of such representation on the exercise of his independent professional judgment on behalf of each". We have already alluded to the factual issues which we think the Special Board must address with respect to this defense. In addition, we would remind the Special Board that the ultimate issue of whether or not there was a waiver broad enough to cover SS&D's representation of CEI in this proceeding should be decided within the framework of existing federal case law on this question. See, *e.g.*, *Emle Industries, Inc.* v. *Patentex, Inc.*, 478 F.2d 562, 573-74 (2d Cir. 1973); *Consolidated Theatres, Inc.* v. *Warner Bros. Circuit Management Corp.*, 216 F.2d 920, 927 (2d Cir. 1954); *Marketti* v. *Fitzsimmons*, 373 F. Supp. 637, 641 (W.D. Wisc. 1974); *E. F. Hutton & Co.* v. *Brown*, 305 F. Supp. 371, 400 (S.D. Tex. 1969).

---

The case is remanded to the Special Board for further proceedings consistent with this opinion.[15] In view of the already advanced stage of the antitrust

[15] We have not given yes or no answers to the Antitrust Board's specific certified questions because we preferred to deal with the issues at greater length and in our own terms within the framework of our opinion. Our own certified questions can only be dealt with after an evidentiary hearing.

proceeding, we urge the Special Board to give it expedited consideration.

It is so ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Eleanor E. Hagins
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-333

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Alan S. Rosenthal, Chairman
Dr. Lawrence R. Quarles
Richard S. Salzman

In the Matter of

PORTLAND GENERAL ELECTRIC COMPANY et al.

(Pebble Springs Nuclear Plant, Units 1 and 2)

Docket Nos. 50-514
50-515

Upon appeal from a Licensing Board ruling granting the petition to intervene of an organization and six of its members, the interests of which are founded solely on those members' status as customers of one of the applicants, the Appeal Board holds that the interest of a customer is not arguably within the zone of interests to be protected or regulated by either the Atomic Energy Act or the National Environmental Policy Act and that, under judicial standing doctrines, standing would be lacking. Because of its uncertainty respecting the application to this case of the Commission's recent *Edlow International* decision (CLI-76-6), the Appeal Board certifies to the Commission under 10 C.F.R. §2.785(d) questions concerning (1) whether the entitlement of a petitioner to intervene as a matter of right in an NRC domestic licensing proceeding is strictly governed by contemporaneous judicial concepts of standing; and (2) whether, if standing to intervene as a matter of right is lacking, intervention nevertheless may be permitted as a matter of discretion.

RULES OF PRACTICE: STANDING TO INTERVENE

The interest of a rate payer, standing by itself, is not arguably within the zone of interests to be protected or regulated by either the Atomic Energy Act or the National Environmental Policy Act.

Mr. Warren Hastings, Portland, Oregon, for the applicants, Portland General Electric Company *et al.*

Mr. Frank Josselson, Lake Oswego, Oregon, for the petitioners for intervention, Project Survival, *et al.*

**Mr. Lloyd K. Marbet,** Portland, Oregon, for the intervenors, Coalition for Safe Power and Forelaws on Board.

**Mr. O. Gregory Lewis** for the NRC staff.

## MEMORANDUM AND CERTIFICATION TO COMMISSION

### June 22, 1976

This Board now has before it the question whether status as a rate-payer (*i.e.*, customer) of an electric utility which is a co-applicant for a permit to construct a nuclear power facility is sufficient, of itself, to confer standing to intervene in a licensing proceeding involving that application. The question has reached us on an appeal taken, by the applicants for permits to construct Units 1 and 2 of the Pebble Springs Nuclear Plant, from a ruling of the Licensing Board granting the petition to intervene of an organization (Project Survival) and six of its members.[1] As amended, that petition asserts an interest in the Pebble Springs proceeding solely on the basis that those members are customers of the Pacific Power and Light Company, which is one of the applicants.[2] In affidavits attached to the amended petition, each of the individuals averred that:

> He [or she] is a rate-payer of Pacific Power & Light Company and makes this affidavit in support or his [or her] petition to intervene in these proceedings. As a rate-payer, he [or she] will be adversely affected if the Pebble Springs Nuclear Plants are constructed because he [or she] will be burdened by rate increases to pay for the power to be generated thereby. The granting or denying of a construction permit for a nuclear facility reflects an accurate assessment of all costs and benefits of the project, including social, economic, and environmental costs and benefits. As a customer of Pacific Power & Light Company, he [or she] has an interest in seeing that the Company makes an economically, socially, and environmentally sound decision with regard to its participation in this project and that the cost-benefit analysis be accurate. As a consumer of electricity, he [or she] is concerned with the reliability of the utility's generating facilities. In connection with this, a full and adequate evaluation of the economic, social and environmental impacts of the proposed facilities must be made to ensure

---

[1] This ruling was rendered orally at a special prehearing conference held on May 25, 1976 and thereafter memorialized in an order entered by the Licensing Board on June 3, 1976. The applicants' appeal was taken on May 28, 1976 from the oral ruling but is being treated as addressed to the subsequent written order.

[2] The amended petition had been filed additionally on behalf of three other individuals, *not* members of Project Survival, who claimed an interest based upon considerations other than their status as rate-payers. None of these persons was granted intervention and the question of their standing is not before this Board.

that the plant will be constructed without delay and operated without interruption.

If judicial standing doctrines govern the determination of whether a petitioner for intervention has the requisite "interest [which] may be affected" by the proceeding within the meaning of the Atomic Energy Act[3] and the Rules of Practice of the Commission,[4] it is quite apparent that standing is lacking here. Even assuming the existence of sufficient allegations of potential injury in fact, we think it abundantly clear that the interest asserted by the petitioner ratepayers is not arguably within the zone of interests to be protected or regulated by either the Atomic Energy Act or the National Environmental Policy Act. See opinion or Mr. Rosenthal in *Long Island Lighting Co.* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-292, NRCI-75/10 631, 637-43 (October 2, 1975).[5] Beyond that, the petitioners' claimed interest in insuring that the utility supplying them with electricity "makes an economically, socially, and environmentally sound decision with regard to its participation" in the project does not seem to us to be sufficiently particularized to afford a basis for judicial standing. *Cf. Allied-General Nuclear Services* (Barnwell Fuel Receiving and Storage Station), ALAB-328, NRCI-76/4 420, 421-23 (April 28, 1976), citing *Sierra Club* v. *Morton,* 405 U.S. 727. See also, *Edlow International Co.,* CLI-76-6, NRCI-76/5 563,576 (May 7, 1976).

In *Jamesport,* ALAB-292, *supra,* a majority of this Board also concluded that it was "more probably than not" that both Congress and the Commission intended that judicial standing precepts be applied in deciding whether the requisite interest was present. NRCI-75/10 at 645 (opinion of Mr. Rosenthal). This conclusion was implicitly given effect in *Barnwell,* ALAB-328, *supra.*

For these reasons, insofar as it granted intervention to Project Survival and the six identified members thereof, we are strongly inclined to reverse the order on appeal and to direct the Licensing Board to deny the petition for want of standing.[6] What inhibits our pursuit of this course without further ado is an uncertainty respecting the application to the case at bar of the Commission's recent decision in *Edlow International,* CLI-76-6, *supra.* In that case, the Commission was confronted with a petition for leave to intervene and for a hearing on applications for licenses to export special nuclear material to India. Although acknowledging that, "as a general proposition, the Commission relies principally on judicial precedents in deciding issues of standing to intervene", the decision

[3] Section 189a., 42 U.S.C. 2239(a).

[4] Section 2.714(a), 10 CFR 2.714(a).

[5] Although not denominated the opinion of the Board, the conclusions set forth therein represented at least a majority view. NRCI-75/10 at 633.

[6] In light of *Gifford-Hill & Co., Inc.* v. *F.T.C.,* 523 F. 2d 730 (D.C. Cir. 1975), we do not think that standing here might be predicated upon the "private attorney general" theory discussed in Mr. Rosenthal's opinion in *Jamesport,* NRCI-75/10 at 641-43.

went on to observe "that standing requirements in the federal courts need not be a model for those applicable to administrative proceedings". NRCI-76/5 at 569. Of greater present significance, the decision contains at least the suggestion that there may be less reason in "domestic licensing" than there is in "export licensing" for a rigid adherence to judicial standing doctrines. *Id.* at 570-572. Additionally, we find a hint that, in domestic licensing, there may be discretion to grant intervention even where standing to intervene as a matter of right is lacking. *Id.* at 578.[7]

In these circumstances, it seems to us desirable to seek clarification as to the teachings of *Edlow International* before making final disposition of the pending appeal.[8] To this end, we are hereby certifying to the Commission under 10 CFR 2.785(d) the following major questions of policy and law:

1. In determining whether a petitioner for intervention in a domestic licensing proceeding has sufficiently alleged "an interest [which] may be affected by" the proceeding within the meaning of Section 189a. of the Atomic Energy Act and Section 2.714(a) of the Commission's Rules of Practice, are the adjudicatory boards strictly to apply contemporaneous judicial concepts of standing? If not, what principles are to be applied?

2. In circumstances where a petition for intervention in a domestic licensing proceeding does not allege an interest which would entitle the petitioner to intervene in the proceeding as a matter of right, may intervention nevertheless be permitted as a matter of discretion? If so, is the excercise of that discretion reserved to the Commission itself or may it be exercised by the adjudicatory boards as well? If the adjudicatory boards do have that discretion, what are the

[7] In *Jamesport*, the staff relied upon two earlier Commission decisions as authority for the proposition that, "even if [the petitioner] has no legal entitlement (*i.e.* standing) to intervene, [an Appeal Board] nevertheless [has] the discretion to allow intervention". NRCI-75/10 at 645, fn. 14. We did not there decide the point.

[8] The applicants' appeal did raise a second issue; *viz.*, whether the Licensing Board erroneously concluded that Project Survival has been authorized to represent its membership in this proceeding. Because we conclude that the record supports the Licensing Board on that issue, the outcome of the appeal hinges upon the standing matter.

It might also be noted that the rate-payer standing question arose on an earlier appeal in this proceeding involving other petitioners for intervention. At that time, we chose to reserve judgment on it "for a more appropriate case". ALAB-273, 1 NRC 492, 494 (1975). Apart from the fact that there does not appear to be any basis upon which the question properly can be passed again here, we believe it to be of sufficient potential recurring importance to warrant resolution at this time. Moreover, it is our impression that closely related economic standing issues are surfacing in other proceedings, making it all the more necessary that the governing criteria for their adjudication be settled at an early date.

standards which should govern its exercise generally and in this case in particular?

FOR THE ATOMIC SAFETY
AND LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

**Supplemental concurring opinion of Mr. Salzman:**

In *Jamesport*, the NRC staff had urged upon us the theory that parties who lacked "judicial" standing could nonetheless be admitted to Commission proceedings "in the sound exercise of administrative discretion". See NRCI-75/10 at 658. I supported that position, expressing my view that the Commission was not bound to apply—and indeed should not apply—in its own proceedings rules of standing developed in the federal courts for reasons largely extraneous to the admininstrative process. *Id.* at 654-59. That position, however, was rejected by the majority of the board hearing the *Jamesport* appeal. Under our practice, subsequent appeal boards (as well as the licensing boards) are bound by the *Jamesport* ruling that judicial standing tests govern entry to the Commission's licensing proceedings. Hence, though my personal views differ, I feel constrained to go along with my colleagues in holding that "rate payers" as such lack standing and may not intervene in this case.[1]

The Commission has in the past allowed us to apply the judicial standing tests with some liberality. Those tests cannot be stretched indefinitely, however. And it is by no means true that every party deserving of the Commission's ear would have standing under those precepts.[2] I therefore concur in my colleagues' treatment of this intervention appeal and join them in urging a Commission decision now on the certified questions.

[1] There may well be, as my colleagues say, a suggestion in the recent *Edlow International* decision that discretion exists (at least in domestic cases) to allow deserving parties who do not meet the tests for judicial standing to intervene in Commission proceedings. If that be true, no clue is there provided about who possesses that discretion or about the standards for its exercise. To raise such a "hint" to the status of a holding (or even a *dictum* for that matter) would require us to engage in levitation, not adjudication.

[2] See, *e.g.*, *Jamesport*, *supra*, NRCI-75/10 at 658-59.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-334

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. Lawrence R. Quarles
Dr. W. Reed Johnson

In the Matter of

Docket Nos. 50-275 O.L.
50-323 O.L.

PACIFIC GAS AND ELECTRIC COMPANY

(Diablo Canyon Nuclear Power Plant
Units Nos. 1 and 2)

On the ground that it would involve no unreasonable risk of harm to the public, the Licensing Board authorized the applicant to be licensed under Part 70 of the Commission's regulations to store unused nuclear fuel assemblies at its Diablo Canyon facility before the facility itself was licensed for operation. Intervenors excepted and the Appeal Board affirmed, holding that the Licensing Board had (1) applied the correct standard (2) rendered a decision in accordance with and supported by the evidence and (3) not committed prejudicial procedural error.

RULES OF PRACTICE: TELEPHONE CONFERENCE CALLS

Promptly after any prehearing conference carried on via telephone during which rulings governing the conduct of the proceedings have been made, licensing boards must draft and enter written orders confirming those rulings. 10 C.F.R. §2.752 (c).

RULES OF PRACTICE: TELEPHONE CONFERENCE CALLS

When a prehearing conference is conducted via telephone, the licensing board must insure that representatives of all parties concerned are on the line unless that representation has been waived.

RULES OF PRACTICE: HARMLESS ERROR

It is error for a licensing board to make a ruling at a prehearing conference via telephone where one party is unrepresented without conveying that ruling to the absent party; the error is harmless, however, where the ruling in question operates in favor of the absent party.

RULES OF PRACTICE: DISCOVERY

It is not error to deny discovery into matters irrelevant and immaterial to the proceeding to be heard.

RULES OF PRACTICE: CROSS-EXAMINATION

The licensing boards are vested with discretion to limit cross-examination to exclude irrelevant testimony and to cut off such examination entirely when it ventures into matters too far removed from the issue being heard. 10 C.F.R. §2.757.

MATERIALS LICENSE UNDER PART 70: STANDARDS

Part 70 of the Commission's regulations precludes authorization of a license to store unused nuclear fuel assemblies without a finding, *inter alia*, that issuance of the license would not constitute an unreasonable risk to the public health and safety. 10 C.F.R. §70.31 (d).

RULES OF PRACTICE: CROSS-EXAMINATION (HYPOTHETICAL QUESTIONS)

While the appropriateness of any given hypothetical question is a matter largely for the trial board's discretion, as a general rule such questions are impermissible unless based on facts supported by evidence in the record or which that evidence tends to prove.

TECHNICAL ISSUE DISCUSSED: Unspent reactor fuel storage risks.

**Mr. Philip A. Crane, Jr.**, San Francisco, California (**Messrs. John C. Morrissey, Dennis C. Sullivan** and **Bruce R. Worthington**, San Francisco, California, with him on the brief) for the applicant Pacific Gas and Electric Company, *appellee.*

**Mrs. Sandra A. Silver** and **Mr. Gordon Silver**, North Hollywood, California, for Joint Intervenors San Luis Obispo Mothers for Peace and John J. Forster, *appellants.*

**Mr. James R. Tourtellotte** (**Mr. L. Dow Davis** with him on the brief) for the Nuclear Regulatory Commission Staff.

## DECISION
## June 22, 1976

The Licensing Board now has before it Pacific Gas and Electric Company's application for a license to operate its nearly completed Diablo Canyon Nuclear Power Plant. In the course of this proceeding, the applicant sought a "materials license" under Part 70 of the Commission's regulations (10 C.F.R. Part 70) to receive and store at the Diablo Canyon site nuclear fuel assemblies for future use in that facility. The San Luis Obispo Mothers for Peace and John J. Forster are intervenors in the operating license proceeding. They objected to granting applicant that interim license before the plant itself was licensed,[1] contending that the storage of nuclear fuel at the facility would constitute an unreasonable risk to the public health and safety. The Commission's regulations prohibit the issuance of a license under Part 70 where such risk exists. 10 C.F.R. §70.31 (d).[2]

The Licensing Board held a three-day hearing on intervenors' objections, taking testimony from seven witnesses proffered by the applicant and the staff. The intervenors presented no witnesses of their own but their representatives, who are not attorneys, did cross-examine those of the other parties. On the basis of the record developed at the hearing, the Board concluded that the applicant could receive and store nuclear fuel assemblies at its Diablo Canyon facility without creating any unreasonable risk of public harm. Accordingly, on December 23, 1975 the Board authorized the applicant to be licensed to undertake such storage.[3]

The intervenors have jointly appealed from the Licensing Board's December 23rd order.[4] They argue that it must be set aside because of procedural errors and because it lacks support in the record.[5] We do not agree.

---

[1] For obvious reasons, authority to receive and store nuclear fuel is granted to applicants awarded an operating license.

[2] The Commission's regulations provide in pertinent part that "[n]o license [under Part 70] will be issued * * * if the Commission finds that the issuance of such license * * * would constitute an unreasonable risk to the health and safety of the public." 10 C.F.R. §70.31 (d).

[3] The Licensing Board's December 23rd order is unpublished.

[4] Our jurisdiction is normally limited to appeals arising in proceedings under Part 50 of the Commission's regulations. 10 C.F.R. §2.785 (a). We entertain this Part 70 appeal by virtue of a specific delegation of authority from the Commission. CLI-76-1, NRCI-76/2, 73 (February 5, 1976).

[5] On March 18, 1976 we denied Joint Intervenors' motion to stay shipments of nuclear fuel to the plant site pending our disposition of this appeal. ALAB-320, NRCI-76/3, 196.

## I

Joint Intervenors direct our attention to three procedural rulings by the Licensing Board which they assert are grounds for overturning the decision below. The claims are made that the Board (1) changed the issues in controversy without notice to the representative of the Mothers for Peace, to that intervenor's serious disadvantage; (2) denied improperly intervenors' attempt to discover details of the security plan for the Diablo Canyon facility and (3) limited unfairly intervenors' right to cross-examine witnesses for the purpose of eliciting testimony about the value of the nuclear fuel assemblies and the number of saboteurs who might be able to break into the plant. We discuss those assertions in that order.

**1. The modification of the issues in controversy.** The hearing below was precipitated by a motion made on April 10, 1975 at a prehearing conference. Mrs. Sandra Silver, representing intervenor Mothers for Peace, there moved to preclude the applicant from receiving and storing nuclear fuel assemblies at the Diablo Canyon site before the facility was licensed for operation (Tr. 444). On June 3rd, Mr. Gordon Silver, husband of Mrs. Silver and representative in this proceeding of intervenor John J. Forster, moved on Forster's behalf "to allow him to associate with and support [that] MFP motion at all proceedings connected with it." On June 24th the Licensing Board acted on both motions. It ruled that the MFP motion raised factual issues which would require a hearing for resolution and stated those issues to be:

(1) The forces to which the fuel storage building could be subjected to as the result of the occurrence of a hypothetical earthquake appropriate for this site;
(2) The probability and significance of the formation of a critical mass as a result of the application of this force (including the presence of water due to possible pipe breakage);
(3) The probability and significance of a critical mass being formed by an act of sabotage; and
(4) Alternatives to the storage of the fuel at the site.[6]

There were no objections to the Board's formulation of the issues. The Board also granted Mr. Silver's request on behalf of intervenor Forster "to associate with and support" the MFP motion.

At Mr. Silver's instigation, in October the Board held a telephone conference call to discuss matters relevant to the conduct of the fuel storage license hearing which had been calendared to get underway the following December. (Tr. 650-52). For reasons not entirely clear to us, Mrs. Silver was apparently not

[6] Order of June 24, 1975, p. 4 (unpublished).

asked to and did not participate in the call. *(Ibid.)* Mr. Silver was aware of that fact at the time, but made no mention of it. The record is ambiguous about whether the Board failed to appreciate Mrs. Silver's absence from among the parties on the line or assumed that Mr. Silver was speaking for her as well for himself.

During the course of the conference call the Board made several rulings. Pertinent here are its instructions to the parties to assume for purposes of the forthcoming hearing, first, that the Diablo Canyon fuel storage building had collapsed in an earthquake and damaged the racks in which the nuclear fuel was stored and, second, that the plant's security arrangements had been breached and saboteurs had gained entry.[7] The Board then indicated that, in light of those assumptions, only two issues remained for trial: (1) "the effect of an earthquake" and (2) "the effect of entry of saboteurs."[8] The Board dropped the fourth issue (alternative fuel storage sites) althogether, observing that it involved only economics and was not relevant to the issue of the public health and safety, the subject of the materials license hearing.[9]

The Licensing Board did not memorialize its actions in a formal order. Although Mr. Silver admitted discussing other matters raised at the conference call with Mrs. Silver, he stated that he did not draw her attention to the Board's simplification of the hearing issues. (App. Tr. 13-14, 77-78). Mrs. Silver represents to us that she did not become aware of the modifications virtually until the opening of the hearing itself.[10] The Mothers for Peace now advance the claim that the failure to give Mrs. Silver timely notice of the change in issues placed them at an "unconscionable disadvantage" in the hearing. For this reason, they say, the Board's order must be reversed.

We begin our analysis by observing that the Board below expressly found intervenors not to have been prejudiced by being required to go ahead with their case in the circumstances described. (Order of Dec. 23, 1975, p. 3; Tr. 658.) Nor do intervenors themselves particularize any disadvantage under which they were compelled to labor by the Licensing Board's rulings. On the basis of our review of the record we perceive none.

We reached our conclusion by the following route. First, the Board below did not use the conference call to inject new issues into the case. It merely eliminated certain existing matters in controversy by requiring the parties to assume (for purposes of the part 70 license hearing) that intervenors would prevail on those issues. Thus, as a consequence of the Board's conference call rulings, the intervenors no longer needed to show that the facility could not withstand an earthquake (this was issue (1)). Instead, they had only to demon-

[7] Licensing Board Order of December 23, 1975, p. 5.
[8] *Ibid.*
[9] *Ibid.*
[10] Joint Intervenors' brief, p. 7, and Tr. 650-51.

strate how, in the event of such a seismic occurrence, the stored nuclear fuel might be formed into a "critical mass"[11] and, should that transpire, how the public might be harmed as a result (issue(2)).

Similarly, the Licensing Board did not burden intervenors by ruling that the parties need only consider the consequences of "the entry of saboteurs" into the Diablo Canyon facility and not concern themselves about how that entry was achieved. To the contrary, as the Board below noted,[12] this ruling relieved intervenors of a burden they would otherwise have had to shoulder, *i.e.*, of demonstrating how intruders could evade or overpower the facility's guard force. In other words, for purposes of the hearing the Board accepted intervenors' argument that applicant's security arrangements would be inadequate (issue (3), part 1). This allowed intervenors to make out a case against issuance of the materials license on sabotage grounds simply by showing–if they could–how saboteurs might use the stored nuclear fuel to endanger public health and safety (issue (3), part 2). And the dropping of point (4) by the Board meant that if intervenors could prevail on either of the two issues remaining *(i.e.*, the effects of sabotage or earthquake), the Part 70 license would have to be denied even if the applicant lacked an economically reasonable alternative to storing the fuel at the Diablo Canyon site.

In short, the Board's actions in the conference call did no more than eliminate intervenors' obligation to establish (or to discredit their opponents' showing on) a number of key points. Whether the Board below should have reformulated the issues as it did may be debatable. But the reformation accrued to intervenors' benefit, not detriment. Thus, even accepting as true Mrs. Silver's lack of awareness of the Licensing Board's simplification of the trial issues, the only consequence was her appearance at the hearing primed to litigate four issues when only two remained to be heard.[13] Be that as it may, it is fruitless for a party to complain on appeal about trial rulings which operated *in its favor.*[14]

We do agree with the intervenors that the Licensing Board should have reduced its prehearing conference call rulings to writing. Had this been done, the confusion about the number and nature of the issues to be tried probably would have been avoided. Indeed, the Commission's Rules of Practice contemplate that a licensing board will "enter an order which recites the action taken at the

[11] "Critical Mass" and "criticality" are discussed in part II, *infra*, pp. 818-819.

[12] Licensing Board Order of December 23, 1975, p. 3.

[13] Lack of notice of those changes might have inconvenienced any witnesses brought by intervenors to testify about issues no longer in the case. As we noted, however, intervenors had no witnesses of their own.

[14] *Ford Motor Company* v. *Mathis*, 322 F. 2d 267, 274 (5th Cir. 1963); *Highway Const. Co.* v. *City of Miami*, 126 F. 2d 777, 780-81 (5th Cir.), *certiorari denied*, 317 U.S. 643 (1942); *Langroise* v. *Cummings*, 123F.2d 969, 974 (9th Cir. 1941), *certiorari denied*, 316 U.S. 664 (1942); *Montgomery Ward & Co.* v. *Medline*, 104 F.2d 485 (4th Cir. 1939).

conference * * * which limits the issues or defines the matters in controversy to be determined at the proceeding." 10 C.F.R. §2.752 (c). The Board's failure to have written and entered such an order following its rulings at the conference call was error. For the reasons just described, however, in this instance the error was harmless.

Manifestly, that result was fortuitous. But we can envision other situations where a failure to enter written procedural orders may not be so harmless. We recognize that instances arise when licensing boards feel they must hold prehearing conferences by telephone. For the reasons this case illustrates, however, on those occasions the board must insure that orders rendered over the telephone are followed up promptly with written confirmation to all parties. Honoring this practice—required by the rules—not only should avoid repetition of what happened here, but also would enable the parties to bring to the boards' attention before memory fades any discrepancies between the oral and written orders.

Our disposition of this point renders it unnecessary to decide whether the staff is correct in its suggestion that, on the facts of this case, Mr. Silver's participation in the conference call was adequate notice to Mrs. Silver of any action taken there. (See Tr. 655-66). We take this opportunity, however, to reiterate what we said in *North Coast*: "As a general matter, conference calls which include some parties and exclude others are to be avoided except in the case of the most dire necessity."[15] That case, unlike this one, involved the possibility of a violation of the Commission's rules against *ex-parte* communications. The circumstances here exemplify another good reason why conference calls among fewer than all the parties are unwise.

In sum, we believe that considerations of simple fairness make it the duty of any party who becomes aware that another is not represented at a conference call to bring that fact to the presiding officer's attention. And it is the obligation of the board and the staff (as a representative of the public interest) to make appropriate inquiry at such a call to ascertain that all the parties are in fact on the line or have waived representation. By taking that precaution, problems of the type encountered here and in *North Coast* should be eliminated.[16]

**2. Denial of discovery.** For reasons which need not be rehearsed here, the Licensing Board reserved consideration of the adequacy of applicant's security plan to the operating license hearing. Completion of discovery in this area has

---

[15] *Puerto Rico Water Resources Authority* (North Coast Nuclear Plant, Unit 1), ALAB-313, NRCI-76/2, 94, 96 (1976).

[16] We appreciate that *North Coast* was handed down after the conference call at issue in this proceeding. Nevertheless, what we said in that decision should have been obvious to the Board below and to the staff. Particularly where parties are proceeding *pro se* and are not fully aware of procedural niceties, the boards must act scrupulously to protect their interests in order to insure that justice is not only done, but seen to be done.

been delayed pending the adoption of final arrangements for keeping information about the plan confidential.[17] This was one of the reasons which underlay the Board's decision to instruct the parties to assume for purposes of the materials license hearing that the security plan was inadequate,[18] thus making it necessary in this case to delve directly into questions of the risk of harm to the public health and safety from successful acts of sabotage involving the stored nuclear fuel assemblies.[19]

Intervenors nevertheless contend that their lack of discovery of the security plan handicapped the presentation of their case. We think intervenors' position not well taken. A purpose of the security plan is, of course, to exclude unauthorized individuals—including saboteurs—from the facility. The Board, however, required the parties to assume that security was breached. Consequently, the staff is correct in pointing out that this left intervenors free to assume that security would be breached by as many individuals as were necessary for as long as needed to establish "criticality." Knowledge of applicant's security plan was thus irrelevant for purposes of the Part 70 hearing as structured by the Board; consequently it was not error to hold the hearing before discovery was completed in this area.

**3. Limitation on cross-examination.** Intervenors' final assertion of procedural error involves two occasions on which the Licensing Board cut short their cross-examination. The first instance involved Mr. Lindblad, one of applicant's witnesses. Intervenors contend that the Board would not let them explore through Mr. Lindblad the situation which would be created in the event more than four saboteurs broke into the plant. It was intervenors' position before the Licensing Board that "the consequences of an act of sabotage is a function of the number of saboteurs". They argue to us that their "position was compromised by the Board's limitation" of their cross-examination.[20]

The short answer to this charge is that intervenors simply have misconceived the witness' testimony and the Board's rulings. Mr. Lindblad merely testified that, in his judgment, the plant's internal security forces could handle any threat up to four intruders, but for greater numbers the applicant would rely on "outside public agencies for reinforcement." (Tr. 1027-28, 1033). The Board did not use this testimony as a basis for ruling out consideration of acts of sabotage achievable only by more than four individuals. Neither did it limit the number of intruders intervenors might hypothesize. What the Board did do at that point was to remind the intervenors that they were to proceed from the assumption that "criticality" would be achieved by whatever number of saboteurs entered

[17] See Joint Intervenors' brief, p. 10.

[18] Licensing Board Order of December 23, 1975, p. 5.

[19] See part II, *infra*, pp 817-828.

[20] Joint Intervenors' brief, p. 10.

the facility and, therefore, to move along and address themselves to "the significance of criticality" (Tr. 1029). The Board carefully explained to intervenors that "if you are able to establish that there would be a significant result flowing from criticality", it would allow them to take up the likelihood of its occurrence. (Tr. 1034). Given the posture of the case and the Board's assumptions regarding the saboteurs' effectiveness, we think the ruling complained of was within the Board's discretion to make. Under the Commission's rules, it was fully entitled to limit the cross-examination of witnesses to exclude irrelevant testimony. 10 C.F.R. §2.757 (c).[21]

Intervenors also complain that the Board sustained objections to their questions about the value of nuclear fuel assemblies. (Tr. 1205-06). Intervenors' theory was that these are costly items which might be stolen for blackmail purposes. We think the Board did not err in cutting short this line of inquiry as "too far removed from our immediate concerns" in the hearing. (Tr. 1206). As we noted, the parties were instructed to accept as fact that unauthorized persons had already gained possession of the nuclear fuel. The point of the hearing was to explore the possible risk of harm or injury to the public through their use of that fuel. Intervenors' questions were clearly tangential to that basic inquiry and the Board did not abuse its discretion in declining to allow them. 10 C.F.R. §2.757.

## II

In the first portion of this opinion we explained why intervenors were without cause to complain of the Licensing Board's procedural rulings. We turn here to a consideration of their substantive dissatisfaction with the decision below. In order to place their objections in perspective, as well as to indicate the context in which the Board's rulings were made, we preface our discussion with a brief and perhaps somewhat elementary description of nuclear fuel, how it is used and the way it is stored.

**A. Background.** The Diablo Canyon nuclear power plants will be fueled with uranium dioxide (uranium-238 enriched with uranium-235 to a maximum of 3.1%). The fuel is in the form of "sintered" pellets; that is to say pellets which

[21] The applicant also suggests (br. p. 11) that the intervenors' cross-examination was properly cut off because "license applicants need not consider actions by an 'armed band of trained saboteurs' ", citing *Consolidated Edison Company* (Indian Point Station, Unit 2), ALAB-197R, 7 AEC 825, 830 (1974). The applicant misreads our decision, for it also holds that it must demonstrate that it has a security plan adequate to *detect* encroaching saboteurs and to *alert* law enforcement authorities to their presence quickly and effectively. *Ibid.* See 10 C.F.R. §§50.34 (c), 73.1, 73.2(p), and 73.40; Regulatory Guide 1.17. The limitation of the intervenors' cross-examination was permissible for the reasons discussed above, not because all aspects of protection against saboteurs are beyond the Board's ken.

have been sufficiently heated to cause them to assume the form of a dense ceramic material. (Tr. fol. p. 1130, p. 7). New fuel pellets are not dangerously radioactive and may safely be held in the hand.[22] For use in the reactor, the pellets are stacked in tubes made of a corrosion-resistant alloy of zirconium known as "zircaloy". *(Ibid.)* Each tube measures about twelve feet long, but has an outside diameter of only 0.374 inches (Tr. fol. p. 1130, App. A). (Their slender shape suggests why they are commonly called "fuel pins".) After being loaded with pellets, the tubes are pressurized with helium and sealed.[23] Unused fuel pins, like new fuel pellets, may be handled without danger. (Tr. 1160). The fuel pins in turn are permanently assembled in a 17 x 17 square array, are fixed in place by top and bottom nozzle assemblies and laterally supported by grids at 6 positions along their length. Each array of fuel pins is known as a "fuel assembly" or "fuel element," is approximately 13-1/2 feet long and 8-1/2 inches square, and weighs approximately 3/4 of a ton (1500 lbs.) (Tr. fol. 1130, App. A). It is in this form that the uranium fuel is placed in reactors.

In about one third of the Diablo Canyon fuel assemblies, certain of the fuel pin spaces hold movable "control rod cluster assemblies" containing neutron-absorbing material, which can travel in and out of the array. And in lieu of certain other pins, steel rods with "burnable poisons" have been inserted for purposes related to the efficiency of reactor operation. (Tr. 1050-51).

The assemblies are made at a fabrication plant (in this case by Westinghouse in South Carolina) and trucked in reusable sealed casks to the reactor. Each cask is steel, holds two fuel assemblies, and weighs 7,400 pounds (3.7 tons) loaded. (Tr. 1163). It is permission to receive and store these fuel assemblies at the Diablo Canyon facility which the applicant sought and the Licensing Board granted in this proceeding.

The chain reaction principle on which nuclear reactors operate has often been described. For purposes of this case it is sufficient to observe that, under appropriate conditions, a uranium atom which absorbs a neutron may undergo "fission," that is split into two or more lighter elements ("fission products"), release energy in the form of heat, and free additional neutrons in the process. Should these neutrons strike other uranium atoms and one cause fission, the process will be repeated with the same consequences of heat generation and neutron release. In an operating nuclear power reactor, conditions are maintained that assure the occurrence of this stable "chain reaction" in which each fission triggers another. This balanced condition of continuous neutron production and loss is known as "criticality"; a physical system in which such a process

[22] Tr. fol. 1130 at p. 8, 1157, 1163.

[23] Because it is in hard pellet form, the nuclear fuel is not in uniform contact with the fuel rod itself. The main purpose of the helium is to use its superior heat conducting properties to facilitate the transfer of heat from the fuel to the rod when the reactor is in operation.

is taking place is said to have "gone critical."[24] If the system is a power reactor, the heat energy released by the fission process is removed from the fuel by cooling water which ultimately produces steam to drive a turbine and generate electric power.

The stable chain reaction process just described can be sustained only where a series of essential conditions are first satisfied. To start with, there must be a sufficient supply of uranium fuel. No chain reaction can be sustained without the presence of a "critical mass." Second, the fuel must be placed in a "moderator" (usually water) to reduce the speed of neutrons. (Tr. 893, 1139). For reasons we need not go into here, this increases the likelihood that the neutrons will remain in the system, strike the uranium atoms and cause fission. Third, the fuel elements, and the rods within those elements, must be arrayed in a proper geometric pattern, with the fuel/moderator ratio within certain limits. Finally, the heat produced by the fission process must be carefully controlled. If the moderator is allowed to overheat, rather than slowing the neutrons it will let them escape ("moderator voiding," Tr. 1087). And heating the fuel itself increases the likelihood that the uranium will simply absorb neutrons rather than undergo fission ("doppler coefficient"). (Tr. 1141). In either event, these feedback mechanisms act to terminate the state of criticality. In the limiting case of an uncontrolled power excursion or "supercriticality event" (see footnote 24, *supra*), the sudden generation of great amounts of heat causes the water moderator to flash into steam. Unless the excursion is otherwise controlled, the forces created by enormous steam pressure, which occurs almost instantaneously, will thrust the fuel elements apart or distort the slender fuel pins. Either case immediately disrupts the geometrical configuration of the fuel, thereby destroying a condition necessary for criticality and terminating the chain reaction.

At the Diablo Canyon facility, 270 fuel elements can be stored vertically in specially constructed steel racks. The racks retain the fuel elements in a "subcritical array", *i.e.*, sufficiently separated to prevent the formation of a critical mass. The racks themselves are permanently affixed to the bottom of a pool constructed of reinforced concrete and lined with steel. This fuel storage pool is

[24] In more technical terms, a state of criticality exists in a neutron multiplying system when the number of neutrons in one generation equals the number in the preceding generation. In this condition the neutron production rate (due to neutron absorption and fission in $^{235}U$) is exactly equal to the neutron loss rate. Neutrons may be lost by absorption in $^{235}U$ (leading to more neutrons), by non-productive absorption in $^{238}U$ and other materials in the system, or by leakage from the system. The ratio of the number of neutrons in one generation to the number in the preceding generation is commonly called the multiplication factor and is often referred to as "K-effective" ($K_{eff}$). Thus for exact balance (criticality) the multiplication is unity and $K_{eff}=1$. An unbalanced condition in which the multiplication is greater than unity (a condition known as supercriticality) causes the neutron population to increase continuously until some change acts to restore the balance so that $K_{eff}$ again equals unity. In a normal reactor the restoring action may be taken by the operator or it may be the action of an automatic control or safety device.

40 feet deep and filled with cold borated water to a point 23 feet above the top of the fuel. The water protects persons in the fuel building from exposure to radiation when "spent" *(i.e.,* used and therefore highly radioactive) fuel elements are stored in the pool. As an additional safety measure, neutron-absorbing boron is maintained at a concentration in the water high enough to prevent the establishment of a critical state under any geometrical configuration of the fuel elements. (Tr. fol. 850, pp. 5-9).

Because of their weight, individual fuel elements can be inserted in or removed from the fuel racks in the pool only with a powered crane. (Tr. 1039, 1041). Even were some of those elements removed from the rack and assembled in the pool in the appropriate geometrical array, criticality could not be achieved unless the borated pool water was replaced or substantially diluted with the fresh water. It was testified that the dilution would require more than four and one half hours to accomplish under the most favorable conditions; total replacement would take longer. (Tr. fol. 850, pp. 6-9).

The foregoing recital is well documented in the record and is not disputed. At issue before the Board below was whether, given these conditions, there exists an unreasonable risk to public health and safety if a critical mass were to be formed as the result of an earthquake or an act of sabotage. We turn now to these questions.

**B. Consequences of an earthquake.** The Licensing Board held that the Diablo Canyon fuel storage facilities were so designed and located that the consequences of an earthquake "cannot lead to the formation of a critical mass." (December 23rd order, p. 8.). On appeal, Joint Intervenors neither challenge nor discuss that conclusion in their brief, much less attack the evidence introduced before the Board below upon which it rests. In the circumstances we need not consider the issue[25] and content ourselves with noting that, in our judgment, the Licensing Board's conclusion on this question stands on a firm evidentiary footing.[26]

---

[25] "Appellate tribunals may generally disregard issues not briefed and we follow that practice." *Northern Indiana Public Service Company* (Bailly Generating Station, Nuclear-1), ALAB-207, 7 AEC 957 (1974) (citations of authority omitted).

[26] Both the pool and storage racks are designed to withstand without damage earthquakes whose effects are twice as severe as those anticipatible in the Diablo Canyon area. As long as the fuel elements are in the racks no critical mass can be formed. Should the storage racks collapse or the fuel elements be dislodged and fall into precisely that geometrical arrangement necessary to criticality, the borated pool water would preclude its occurrence. The pool is designed so that neither rainwater nor water from the plant's piping systems can dilute the pool water sufficiently to allow criticality; it has no bottom drain and the borated water can be removed only by pumping. Moreover, all the facility's fresh water storage tanks are situated below the level of the fuel storage pool. The only fresh water piping systems above pool level are closed off by valves located below the pool elevation. Should the pool water all leak out, criticality would then be impossible because of the absence of the necessary moderator. See Tr. fol. 850 (Lindblad); fol. 1130 (Staff Safety Evaluation).

**C. Risk to the public from incidents of sabotage.** For reasons explained earlier, the Board instructed the parties to try the case on the assumption that saboteurs would be able to enter the Diablo Canyon facility and gain access to the stored nuclear fuel elements. (See pp. 815-816, *supra*). In essence, this meant the parties were required to address two principal issues: first, the likelihood that saboteurs could use that fuel to start a chain reaction ("achieve criticality") and second, if they did so, what harm to the public might ensue.

To this end the applicant proffered several expert witnesses, including its engineering project manager (Mr. Lindblad) and an expert on radiation effects (Dr. Brunot). The staff tendered four additional witnesses, all with considerable experience in nuclear power engineering. Of the seven witnesses in all, two held earned doctorates in nuclear engineering; none was challenged as to his technical qualifications. The essence of their testimony was that it was virtually impossible for intruders to be able to establish criticality using the new fuel assemblies stored at Diablo Canyon but, even could they do so, that criticality would be of but momentary duration without significant consequence for public safety. The intervenors offered no witnesses of their own, expert or otherwise. Their participation was limited solely to cross-examination of the other parties' experts in an effort to weaken their testimony.

On the basis of the evidence adduced before it, the Licensing Board found that formation of a critical mass out of the stored fuel elements "would be extremely difficult," and that the likelihood of saboteurs being able to do so, though theoretically possible, was "remote." The Board did not elect to rest its decision authorizing the fuel storage license on this ground, however. Rather it relied on its further finding that, even were saboteurs successful in forming a critical mass from the nuclear fuel, the public would not be subjected to any unreasonable risk of harm.

**1. Likelihood of saboteurs forming a critical mass.** On appeal, the intervenors do not question the Licensing Board's assessment of the likelihood of saboteurs being able to form a critical mass, apparently being of the view that even a "remote" possibility is sufficient cause for concern. On this point, therefore, we simply note that our independent review of the record confirms that the Board below did not underestimate the possibility of a successful effort by saboteurs.[27]

[27] The expert witnesses testified that several difficult steps would first have to be accomplished to achieve criticality. First, the boron content of the water in the fuel pool would have to be diluted from its present concentration of 4550 parts per million to a maximum of 2125 ppm, a process which would take at least four and one half hours with the fresh water sources available at the site (the pool volume is almost 54,000 cubic feet.) (Tr. fol. 850, pp. 6-9.). Then at least three fuel elements, the minimum needed to form a critical mass, would have to be removed from the racks. (Tr. 1038). These weigh about 3/4

(Footnote continued on next page)

2. **Consequences of a criticality incident.** The intervenors start from the unexceptionable premise that an applicant for a materials license under Part 70 must prove that no unreasonable risk of public harm is involved in granting it. 10 C.F.R. §§2.731 and 70.31 (d). The heart of intervenors' case is that this applicant did not carry that burden. In intervenors' view, the witnesses inadequately analyzed the consequences of a criticality incident. Therefore, intervenors say, they well may have underestimated the potential danger should such an event occur, through sabotage or otherwise.

(a) To comprehend the testimony directed to this question—and intervenors' criticism—it must first be understood that a state of criticality, or for that matter a supercritical power excursion, does not in and of itself represent a serious risk to the public at large.[28] Research reactors, for example (Tr. 1200), for years have operated continuously at power levels up to five megawatts in open pools (about 20 feet beneath the surface) and some of them have been deliberately put into supercritical excursions (pulses) for experimental purposes. Operators and visitors may look down upon these critical nuclear reactors at essentially no risk to themselves. We do not understand intervenors to suggest otherwise. Rather, their brief focuses on the radioactive fission products which would be formed as a result of a criticality incident and on whether those products are the source of a potential safety hazard.[29]

---

(Footnote continued from previous page)
of a ton apiece (Tr. 1041). Consequently the removal would have to be accomplished with a crane dependent on offsite electric power that would be available only on the assumption that the saboteurs remained entirely undetected. (Tr. fol. 850 at p. 12). Because the nuclear fuel is only slightly enriched with 3.1% U-235, it will become critical only if the close geometrical array of the fuel rods is carefully maintained by keeping a horizontal distance between the fuel elements of .3 inches (Tr. 861 and fol. 1130 at p. 13). This is why the assemblies must be removed from the racks, which maintain greater separation. *(Ibid.)*. Finally, even were the requisite number of fuel elements placed in the proper geometrical array for criticality initially, steam pressure generated by that occurrence would disperse them instantly, automatically ending the critical state (Tr. 1049, 1064). The witnesses testified that no bindings placed around the fuel elements would be sufficiently strong to overcome the forces of dispersion (Tr. 1059). Even if the elements could be kept together, the slender fuel pins themselves would be twisted out of shape sufficiently to destroy the geometry absolutely necessary to maintain the critical state (Tr. 1064). As we noted, the intervenors neither offered contrary evidence of their own nor challenged the qualifications of the witnesses who so testified. In the circumstances, the Board's characterization of the likelihood of saboteurs establishing criticality with the stored fuel as "remote" was compelled by the record.

[28] To be sure, the neutron and gamma radiation produced by a critical or super-critical assembly if not shielded will present a hazard to individuals in the immediate vicinity. For the various scenarios considered at these hearings, water shielding was normally assumed to be present at least to some degree and the only persons in the vicinity of any of the criticality situations examined would be the saboteurs.

[29] Joint Intervenors' brief, pp. 2-6.

The answer to that question requires a basic understanding of the release mechanism for fission products. When nuclear fuel elements "go critical," the radioactive products created by the fission process do not precipitate out to the bottom of the fuel pins in the manner of many familiar chemical reactions. Rather, the new lighter elements are created, atom by atom, throughout the oxide fuel pellets ($UO_2$). (It is to be remembered that although fuel elements can be "burned" in a reactor for extended periods, the actual quantity of uranium transformed by the fission is relatively small.) To be released to the atmosphere, these fission products must first diffuse out of the solid $UO_2$. This process is extremely slow and takes place to any appreciable extent only when the fuel is held at high temperature (greater than 1000°F) for an extended period of time.[30] Those fission products which diffuse out of the pellets are contained by the zirconium cladding of the fuel pins; only upon failure of the cladding will they be released into the water moderator, which itself tends to absorb them. (As discussed earlier, water must be present as a moderator or there will be no criticality at all.) In sum, only that fraction of the fission products produced which diffuses from the fuel pellets, gets by the cladding and escapes from the water into the atmosphere can pose a threat to the public at large.

(b) Applicant's radiological expert, Dr. Brunot, addressed himself to the likely results of a criticality incident with the new fuel stored at Diablo Canyon. (Tr. fol. 912). He elected to respond to the hypothetical situation suggested by intervenors by comparing it to the consequences envisioned in the "Fuel Handling Accident" analysed in the Final Safety Analysis Report ("FSAR") for the Diablo Canyon facility. Like the hypothetical scenarios postulated by intervenors, that accident assumes an incident in the fuel storage pool which releases radioactive fission products—albeit from spent rather than new fuel. The potential consequences of such an accident are explored in some detail in the FSAR, including whether such an event might expose the public to radiation in excess of guidelines accepted by the Commission in the interests of safety. See FSAR §15.4.6.

Dr. Brunot's approach was to ascertain what he deemed the key factors in both situations and then to adjust those factors as he thought appropriate to reflect differences between the spent fuel accident and the postulated new fuel incident. Utilizing those figures, he then estimated the potential public exposure to fission products from what, in applicant's judgment, was the most serious incident involving criticality which saboteurs might be able to create with the stored unused nuclear fuel, assuming *arguendo* (as the Licensing Board had directed) that they could establish criticality.

Dr. Brunot explained that the quantity of fission products produced by an

[30] See Final Safety Analysis Report (FSAR), Chapter 11.1, and Tr. 1205.

incident of criticality was dependent upon the number of fissions which occurred during the event. For purposes of his analysis, he reviewed existing data and deliberately chose the largest number of fissions which had ever been reported as occurring in a criticality accident (some $6 \times 10^{19}$) on which to base his calculations. He then estimated a dose from criticality accidents based on comparison of the types of radioactive isotopes which would be present in an incident involving new fuel as distinct from a spent fuel accident. The proportion of isotopes with long half-lives would be larger in the latter situation because a considerable part of those with short half-lives would already have decayed. He then determined the portion of the isotopes which would diffuse (escape) from the fuel and the cladding, and adjusted that figure to account for the effect of isotope absorption by the water moderator and the filtration system of the fuel assembly building to find that fraction of the fission products which would actually reach the atmosphere. Finally, to arrive at the dose to which a member of the public might be exposed, he reduced that fraction to take account of atmospheric dilution (*i.e.*, reduction of isotopic concentration as a result of dispersion by air currents) and radioactive decay which could be expected to take place between the release point of the isotopes and their travel through the atmosphere to the site boundary. Based on these considerations, Dr. Brunot testified that the result of a deliberately set criticality incident with new fuel "would be expected to cause potential radiological exposures approximately 600 times less than those following a spent fuel handling accident,"[31] and be "well below the guide line levels established [by the Commission] for design basis accidents" and, therefore, "would not consitute an undue risk to the health and safety of the public." (Tr. fol. 912 at p. 10, 949-53).

Dr. Hirons and Mr. Marotta testified for the staff that, although they did not perform the calculations independently, they did review Dr. Brunot's procedures and computations. In their judgment, Dr. Brunot's methodology was acceptable and his results "conservative." In other words, the staff's expert witnesses expressed the view that if there were any error in Dr. Brunot's conclusions, it was that he had overestimated rather than underestimated the seriousness of a criticality incident with new fuel. (Tr. 1146-1151).

---

[31] The Fuel Handling Accident consequences were reported for spent fuel in the FSAR at Table 15.4-41, summarized as follows:

| | Site Bound. | Low Pop. Zone | NRC Guidelines (10 CFR Part 100) |
|---|---|---|---|
| Whole Body Dose (REM) | 2.5 | 0.10 | 25 |
| Thyroid Dose (REM) | 11.1 | 0.46 | 300 |

The Board below found that "the radiological consequences of the formation of a critical mass in the fuel storage pool would be no greater than those resulting from a spent fuel handling accident and are therefore acceptable", and concluded that storage of unused nuclear fuel at the Diablo Canyon facility in the manner described would pose no unreasonable risk to the health and safety of the public. Those findings and conclusions rest on the foregoing evidence.[32]

(c) Although intervenors proffered no evidence contrary to that relied upon by the Licensing Board, they nevertheless argue on appeal that Board should have denied the application for the materials license. Their thesis is that the testimony adduced by the applicant and supported by the staff rests on faulty premises and should have been rejected. Their first point challenges Dr. Brunot's calculation of the total quantity of radioactive fission products which might be produced in a saboteur-induced criticality. They do not dispute that the total is proportional to the number of fissions which take place and that this in turn is related to the duration of the critical state. What they do contend is that Dr. Brunot's testimony that the maximum number of fissions would be $6 \times 10^{19}$ is arbitrary because it rests on his assumption that any critical state established by saboteurs would necessarily be transitory. (Tr. 934-35; 1064). The intervenors assert that if the saboteurs strapped the fuel elements together with bonds of sufficient strength to prevent their disruption, the critical state could be extended to allow a far greater number of fissions than Dr. Brunot predicted.

This claim is refuted by the uncontradicted expert evidence. Witnesses with unchallenged qualifications in the field of nuclear engineering testified that the forces which would develop immediately upon the occurrence of a "criticality incident" *(i.e.,* a nuclear excursion) would be of such magnitude that no form of "strapping" the assemblies together could prevent their immediate disassembly (in "milliseconds") or preclude extreme distortion of the fuel pins. (Tr. 1060-65, 1074-75, 1097). Either consequence would promptly terminate criticality by removal of the critical mass or destruction the necessary spacing of the pins. (see p. 819, *supra.*) Intervenors' assertion that criticality could be maintained by binding the assemblies was no more than an unsupported hypothetical which they posed to expert witnesses and which those witnesses flatly rejected. As the courts have ruled, "[i]t is axiomatic that a hypothetical question is not evidence. It should be an accurate summation of the evidence already presented in the record and can neither add to nor detract from that evidence." *Myers* v. *Weinberger,* 514 F.2d 293, 294 (6th Cir. 1975) (overturning an administrative decision which relied on hypotheses unsupported by evidence in the record.). Consequently, the Board below may not be faulted for crediting expert testi-

[32] Licensing Board Order of December 23, 1975, pp. 10-11.

mony on the number of fissions over a mere hypothesis devoid of evidentiary support.[33]

(d) Intervenors also criticize the testimony, credited by the Board below, respecting the rate at which radioactive fission products would be released from the new fuel and cladding in the event of an excursion incident. For reasons we need not rehearse in detail here, Dr. Brunot testified that, given the new fuel and brevity of the criticality excursion, a release of about 1/100th of the amount of radioactive isotopes would occur in the postuled incident as compared with release of such products in an accident with spent fuel. This, combined with other factors (dispersion and decay), would in his judgment result in an individual dose at the site boundary of 1/600th that which would occur from the "Fuel Handling Accident" analysed in the FSAR, which itself is within permissible Commission guidelines.[34] He attributed the overall difference in

---

[33] Our own review of the record convinces us that Dr. Brunot's figure ($6 \times 10^{19}$ fissions) is not too low but too high. Even were it possible to bind several Diablo Canyon fuel assemblies together and operate them as a natural convection-cooled pool-type reactor, at a steady power of 1 megawatt the assembly would need 30 minutes to produce $6 \times 10^{19}$ fissions. But our own experience is that steady-state reactor operation requires extensive instrumentation and elaborate controls. These simply could not be set up in a few hours. We agree, therefore, that assuming *arguendo* that saboteurs could achieve criticality by binding nuclear fuel assemblies together and putting them back in the fuel storage pool (or the ocean), what would follow (if anything) would be a sudden excursion, of which mere bonds could not prevent almost instantaneous disassembly and immediate cessation of criticality. Dr. Brunot's use of $6 \times 10^{19}$ fissions is the result of its being the largest value listed in a table of reactor criticality accidents. See, Thompson and Beckerly, *Reactor Safety Technology*, Vol. 1, Ch. 11, pp. 616-17, Table 3.1. But the accident from which this result was derived was not of the sudden excursion type. Rather, it involved a relatively lone (70-second) power operation in a cooled reactor. In our judgment, the results of certain "SPERT" excursion tests (also reported in Thompson and Beckerly, *op. cit. supra*, pp. 684-85) are closer to the situation intervenors postulate. In these tests, control rods were forcibly ejected from the reactor system, providing a step increase in the multiplication constant ($k_{eff}$) beyond unity and a rapid, transient super-criticality which resulted in a total number of fissions of about $5.5 \times 10^{18}$. (See Tr. fol. 912 at p. 6-8). We consider this figure a more reasonable upper bound on the number of fissions to be anticipated from an excursion with a slightly enriched $UO_2$ fuel system such as the one at Diablo Canyon.

Intervenors complain that differences between the tested system and the Diablo fuel make it inappropriate to use SPERT data. According to staff witness, however, these tests provide the best experimental or analytical information available and, in fact, are as close to a representation of the poorly specified "sabotage criticality" as one might hope to achieve. (Tr. 1149-50). The key determining parameters in the SPERT tests are similar to those present at the Diablo Canyon facility, *i.e.*, low enriched $UO_2$ fuel and a water moderator. Differences between the test fuel and the Diablo fuel such as fuel pin size, spacing, and type of cladding material, would have little effect on the total fission yield. We therefore agree with the staff that, on this issue, Dr. Brunot's figures are conservative.

[34] See fn. 31, *supra*.

dosages essentially to the greater amount of undecayed fission products which would have accumulated in and would be released from the spent fuel because of its extended use, while the new fuel would have experienced but a brief state of criticality and accumulated correspondingly fewer such fission products. Dr. Brunot supported his testimony with references to experimental data, *inter alia*, the "SPERT" analysis. (Tr. fol. 912 at 6-8, 950-51).

As before, intervenors' objections are not based on any contrary evidence of their own. They simply disagree with Dr. Brunot's conclusions. Much of their argument on this point is directed at disputing that the experimental results of the SPERT tests are appropriate for Diablo fuel, a contention which we rejected earlier. See fn. 33, *supra*. Intervenors again complain that Dr. Brunot limited his testimony to evaluating a criticality of a transient nature and made "no effort * * * to ascertain or even suggest the consequences of a criticality occurring in a bound and restrained fuel assembly bundle." (Br. p. 4.) The short answer to this complaint was given earlier; such restraints could not effectively prolong any critical event. See fn. 27, *supra*.

What intervenors apparently have not appreciated is that the most effective retardant of fission products is the $UO_2$ fuel itself. Even when a reactor is operated at its rated power—and the high temperatures there developed enhance the diffusion of the individual atoms of the various fission products from the ceramic fuel pellets—only a small fraction of the radioisotopes created by the fission process ever diffuses out of the fuel. (Tr. fol. 912 at 8, Tr. 1205, FSAR 11.1-2 and 3). *A fortiori*, under conditions of "excursive criticality" such as those likely to be associated with the hypothetical acts of sabotage postulated by intervenors (assuming any criticality at all), or for that matter under the extended period of criticality at a steady state, lower power, low temperature operation of intervenors' alternate hypothesis, an even smaller fraction of those fission products would escape. (Tr. 1204-05). We therefore accept as reasonable Dr. Brunot's values regarding the rate of isotopic release in the event of an excursion incident with new fuel.

(e) Lastly, intervenors challenge Dr. Brunot's computation of that fraction of the fission products which, though released from the nuclear fuel, necessarily could not affect the public because absorbed by the water moderator, trapped in the fuel building and its filter system or diluted by atmospheric dispersion. Intervenors do not deny that some portion of those fission products will be thus neutralized. Rather, they claim that Dr. Brunot's computation of that fraction rests on faulty premises. In particular, intervenors contend that he unjustifiably assumed that the saboteurs would necessarily create any criticality incident in the fuel pool under 23 feet of water and would not be able to shut down the filter system. They also claim there to be no foundation for Dr. Brunot's use of a reduction factor for atmospheric dilution and downwind decay six times greater than that applicable to the spent fuel accident analyzed in the FSAR.

Those criticisms are not well founded. First, for reasons previously explained, the presence of water is indisputably necessary to achieve criticality.[35] But water also absorbs fission products. The Board below found that the only possibility (and this more theoretical than practical) remotely "credible" of saboteurs forming a critical mass with the stored fuel required them to make use of the 40 foot deep fuel storage pool.[36] Even assuming that saboteurs were able to establish criticality by reassembling fuel elements atop the pool storage racks, the rack tops are 23 feet under water (Tr. 1060), the figure used by Dr. Brunot in his calculations.

Second, it is simply incorrect that Dr. Brunot assumed that the fuel building filter system would be operating; the record reflects that he also made allowance for the possibility that it might fail. (See. Tr. fol. 912 at p. 9). Finally, the reason the reduction factor for atmospheric dilution and downward decay is greater in the case of an incident with new (unused) fuel than with spent (used) fuel lies in the nature of the fission products coupled with each. As explained earlier, a much larger proportion of fission products having short half-lives are associated with the former than with the latter. A portion of those short-lived products naturally decays during the time required for them to travel downwind from their point of release into the atmosphere to the site boundary. (See p. 824, *supra,* and Tr. 1149).

Moreover, even were this reduction factor assumed to be identical in the case of both new and spent fuel, it would hold no significance for this case. The potential public exposure to radiation at the site boundary as a result of a criticality incident with new fuel would still be less by a factor of 100 than that calculated in the FSAR for the [Spent] Fuel Handling Accident. Such exposures fall well within the Commission's safety guidelines.[37]

## III

We cannot close this opinion without at least a brief comment on the Licensing Board's handling of hypothetical questions. The Board permitted the intervenors, over timely objections, to pose hypothetical questions to applicant and staff witnesses which assumed facts unsupported by evidence, if not contrary to it.[38] We agree that the appropriateness of a hypothetical question is

[35] See p. 819, *supra*, and Tr. 857. 857.

[36] Order of December 23, 1975, p. 9. The expert witnesses considered all the other hypotheses suggested by intervenors (including the one that saboteurs might transport the fuel elements to the ocean) as "incredible." (See *e.g.*, Tr. 904). No contrary evidence was offered by intervenors. Given the great weight of the individual fuel assemblies and the consequent need to maneuver them by crane, we can not fault the Board's finding in this respect. See fn. 27, *supra.*

[37] See p. 824, *supra.*

[38] See, *e.g.*, Tr. 916-17A, 1018-25, 1070-74.

a matter largely for the trial board's discretion. But, even recognizing that intervenors were proceeding without counsel, we think the Board below departed too far from the "general rule * * * that a hypothetical should remain within the evidence and include only such facts as are supported by the evidence or which the evidence tends to prove." *Grand Island Grain Co.* v. *Roush Mobile Home Sales, Inc.*, 391 F. 2d 35, 41 (8th Cir. 1968) (Blackmun, J.). Such departures are at best unfair and at worst lead to a misleading and unsatisfactory record. Accordingly, they should be avoided. Assuming that the Board erred in this respect, the errors were in intervenors' favor and, given our disposition of the case, were harmless.

---

For the reasons developed in the foregoing opinion, the decision of the Licensing Board is *affirmed.*

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ALAB-335

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Michael C. Farrar, Chairman
Richard S. Salzman
Dr. W. Reed Johnson

In the Matter of

Docket No. 50-389

FLORIDA POWER & LIGHT COMPANY

(St. Lucie Nuclear Power Plant,
Unit No. 2)

Upon appeal by intervenors from the Licensing Board's partial initial decisions (LBP-75-5 and LBP-75-25) making environmental and site suitability findings requisite to the issuance of a limited work authorization (LWA), the Appeal Board rules that (1) the Licensing Board correctly decided that the site complies with the Commission's siting criteria; (2) in light of the staff's post-argument disclosures regarding the method by which it evaluated alternative sites, the record does not support the Board's summary rejection of the intervenors' contention concerning the adequacy of such evaluation; and (3) all other exceptions raised by intervenors are without merit. Upon appeal by applicant from construction-permit condition imposed upon it, the Appeal Board rules that the Licensing Board did not adequately justify that condition and, hence, vacates the condition, leaving it open to the Licensing Board to reinstate the condition and articulate its reasons for doing so.

Partial initial decision affirmed in part and reversed in part; matter remanded to the Licensing Board. Pending the decision on remand, outstanding LWA permitted to remain in effect.

RULES OF PRACTICE: BRIEFS

Exceptions may be grouped into categories for the purpose of briefing.

EXCLUSION AREA: SIZE
LOW POPULATION ZONE: SIZE

Under 10 CFR Part 100, the smaller an exclusion area and a low population zone are drawn, the greater the efficacy of the safety devices built into the plant must be in order to retain post-accident radiation dosages below the guideline levels.

LWA: STATUS PENDING PROCEEDINGS ON REMAND

Pending resolution of remanded questions, an LWA may remain in effect in circumstances where little consequential environmental damage will occur.

RULES OF PRACTICE: OPPORTUNITY FOR PARTIES TO ADDRESS FACTUAL ISSUES RAISED BEFORE APPEAL BOARD

Where factual disclosures to Appeal Board reveal a need for further development of the evidentiary record of a proceeding, all parties are entitled to have an opportunity to test such facts and to participate fully in the resolution of the issues involved.

TECHNICAL ISSUES DISCUSSED: Consideration of alternative sites.

**Messrs. Harold F. Reis**, Washington, D.C., and **Norman A. Coll**, Miami, Florida (with whom **Mr. Anthony J. Gambardella, Jr.**, Washington, D.C., was on the briefs), for the applicant, Florida Power & Light Company.

**Mr. Martin Harold Hodder**, Miami, Florida, *pro se* and as counsel for Rowena E. Roberts, *et al.*, intervenors.

**Mr. James R. Tourtellotte** (with whom **Messrs. Perry B. Seiffert** and **Edward Ketchen** were on the briefs) for the Nuclear Regulatory Commission Staff.

## DECISION
## June 29, 1976

In this construction permit proceeding, the Licensing Board has made environmental and site suitability findings entitling the applicant Florida Power & Light Company to begin work of a limited nature on a second nuclear unit at its St. Lucie site on Florida's east coast.[1] Although the applicant has taken exception to one narrow aspect of the decision below,[2] the principal questions before us on appeal have been raised by the intervenors. Our primary concern is with two of the several basic claims which underlie the 45 exceptions which they

[1] LBP-75-5, 1 NRC 101 (1975), as supplemented LBP-75-25, 1 NRC 463 (1975). As we understand it, the applicant has just this month begun to put its limited work authorization to use; prior to that time it had been awaiting receipt of necessary approvals from the appropriate State authorities.

[2] See Part V, *infra*.

filed:[3] (1) that, contrary to the Board's findings, the size of the population surrounding the site—which is on Hutchinson Island just south of Fort Pierce—is likely to exceed the Commission's limitations; and (2) that the Board below should not have summarily rejected their contention, which was premised on the requirements of the National Environmental Policy Act, that inadequate consideration had been given to alternative sites for the plant.

At the oral argument on the appeals, we pursued both questions at some length. Several days later, staff counsel advised us by letter that, contrary to suggestions made earlier, "only one specific alternative site was considered" by the staff in the course of its review of the application and that the precise location of even that site was unknown to it.[4] This disclosure led us first to call upon the staff for a fuller explanation of the process it had followed in considering alternative sites and then to give all parties the opportunity to brief us on what steps we should take in light of those disclosures.

As we explain in Part I of this opinion, the Board below correctly decided that the St. Lucie site did not run afoul of relevant Commission standards concerning nearby population. This conclusion does not end the inquiry, however, for it does not rule out the possibility that there exists some better site, population and all other factors considered. On this score, we conclude that it would be inappropriate to attempt to pass now upon the merits of the method by which the staff approached the question of alternative sites. For, as we discuss in Part II, we are convinced that not until the matter came before us was there a fair disclosure of just what that method entailed. In other words, both the Board below and the intervenors were kept in the dark on this subject; this being so, the record below cannot support the Board's summary rejection of the

---

[3] The intervenors referred in their briefs to only 28 of their 45 exceptions. Because one of those briefed involved a threshold procedural matter, we disposed of it at an earlier stage of this proceeding. See ALAB-274, 1 NRC 497 (1975). The remainder were grouped into eight categories for purposes of briefing, as it is quite proper to do. See *Long Island Lighting Company* (Shoreham Station), ALAB-156, 6 AEC 831, 832 (1973). Other than the two points referred to above, none of the intervenors' arguments warrants more than cursory mention here. See Part III, *infra*.

Some of the seventeen exceptions not specifically referred to in the intervenors' brief are implicitly encompassed within the arguments they presented there. While we are free to disregard the remainder, which were entirely unbriefed (see *Northern Indiana Public Service Company* (Bailly Nuclear-1), ALAB-207, 7 AEC 957 (1974)), we have nonetheless examined them. Nothing in them suggests to us a need to look further. See ALAB-156, *supra*, 6 AEC at 833, fn. 10.

[4] Staff counsel, Mr. Tourtellotte, exhibited highly commendable candor in submitting this unsolicited letter. In light of our disposition of the alternate-site issue, we believe it appropriate to note that the staff was not represented by Mr. Tourtellotte when it filed its papers with the Licensing Board in connection with the motion for summary disposition.

intervenors' contention challenging the adequacy of the consideration given by the staff to alternative sites. The intervenors must be afforded a renewed opportunity to demonstrate to the Licensing Board, if they can, that the methods the staff used or the conclusions it reached—as revealed by the staff's post-argument disclosures—are invalid. Because none of the intervenors' other exceptions has merit (see Part III, *infra*), and for the reasons which we set forth in Part IV, the outstanding limited work authorization may remain in effect in the interim.

## I. COMPLIANCE WITH POPULATION STANDARDS

A considerable portion of the hearing below involved the presentation of the differing views of each party concerning anticipated population growth in the territory surrounding the reactor. On appeal, the intervenors press their claim that the site does not comport in this respect with the standards established by the Commission's siting criteria (10 C.F.R. Part 100).

We have discussed the nature and application of those standards in considerable detail in other opinions.[5] It suffices to note here that those standards call for the creation of an "exclusion area" and a "low population zone" around a reactor. The applicant must control the territory within the exclusion area. It need not have such control over the low population zone, but there must be a sufficiently small number of people in that zone to assure that steps for their protection (such as evacuation) can readily be taken in the event of an emergency. Equally important, the plant must be designed so that in the event of an accident, radiation dosages at the respective zone perimeters will not exceed certain levels. What this means (all other things being equal) is that the smaller these two areas are drawn, the greater the efficacy of the safety devices built into the plant must be in order to retain post-accident radiation dosages below the guideline levels.[6]

The population standards contain the additional requirement that no "population center" larger than 25,000 persons may be closer to the reactor than one and one-third times the distance from the reactor to the outer boundary of the low population zone. If that requirement is not met, however, a proposed reactor does not necessarily have to be relocated nor an existing one abandoned. Instead, a smaller low population zone may be selected so long as the plant has the capability, or can be redesigned, to limit further the potential radiation dosages that could be encountered at the boundry of that zone.[7]

[5] See *Southern California Edison Co.* (San Onofre Units 2 and 3), ALAB-248, 8 AEC 957, 958-66 (1974); and ALAB-268, 1 NRC 383 (1975); see also *Northern Indiana Public Service Co.* v. *Walton League*, 423 U.S. 12 (1975).

[6] See ALAB-268 (*supra* fn. 5), 1 NRC at 404-06

[7] *Id.* at 406.

The intervenors' arguments, as well as the evidence adduced below, had as their starting point the applicant's proposal that the low population zone would have a five-mile radius. As it had the authority to do, however, the Licensing Board imposed a condition upon the applicant which had the effect of requiring it to utilize only a one-mile low population zone.[8] This had a most significant effect, for the controversy below was concerned almost exclusively with population growth at greater distances. In contrast to the land area lying between one and five miles from the plant, virtually all the land within a one-mile radius of the reactor is owned by the applicant. Accordingly, there is no longer any room for an argument that the population within the low population zone may become too large to permit protective steps, such as evacuation, to be taken in the event of an accident. Nor is there any evidence that projected nearby "population centers" will come too close, *i.e.*, to within one and a third miles of the reactor.

In short, owing to the change in the size of the low population zone, we can readily affirm the Licensing Board's holding that the site complies in all respects with the Commission's siting criteria.[9] That does not, however, end all debate concerning whether the site is an appropriate one. There remains for consideration the intervenors' claim that, notwithstanding that the site meets applicable criteria, a better alternative site may be available. We consider this claim in the next portion of this opinion.

## II. THE ALTERNATIVE SITE CONTENTION

### A. BACKGROUND

1. As it was required to do, the applicant filed an "Environmental Report" in support of its construction permit application (App. Ex. 4A). That report dealt at one point (Section 9.2) with alternative forms of generating capacity, and included there a discussion of "alternative plant site considerations" (p. 9.2-2). In the course of that discussion, certain general characteristics of both coastal and inland sites were set forth (p. 9.2-2a). At that point, the report

[8] The Board required the applicant to employ additional engineered safety features sufficient to assure that post-accident radiation dosages at a distance of only one mile would be within the limits specified for the LPZ boundary. See 1 NRC at 128 (¶ 62), 137-38 (¶ 83), and 157 (¶ 126(3)).

[9] At oral argument before us, the intervenors expressed some doubt over whether the applicant would conform the plant design to the new requirement. See App. Bd. Tr. 42-43. We note that it was the applicant which first suggested this approach. Quite apart from that fact, however, the intervenors are mistaken if they believe the Board's ruling was merely hortatory. To the contrary, it is binding on the applicant, which must now conform to the condition expressly imposed upon its construction permit if it wishes eventually to obtain an operating license. The applicant recognizes as much. See App. Bd. Tr. 63.

referred specifically to two inland sites, suitable for either fossil or nuclear-fueled plants, on which the applicant intended to build fossil units (*ibid.*). It then explained in brief fashion why the applicant had chosen not to locate the proposed nuclear unit at either of those locations (*ibid.*).

The report went on in its next section (9.3) to compare the St. Lucie site with "another coastal site located within a 40 mile radius near West Palm Beach" (p. 9.3-1). The site was not otherwise identified except insofar as it was said to be "also an off-shore island which is typical of coastal sites along the east coast of Florida" (*ibid.*) and to be approximately ten miles north of the Riviera Beach population center (p. 9.3-2). A comparison of the two sites followed (pp. 9.3-1–9.3-3).

The staff's Final Environmental Statement (FES), issued in May, 1974, contained an even more abbreviated discussion of alternative sites (Section 9.1.2). In that connection, the following appeared (p. 9-2):

> A comparison of the St. Lucie site to another coastal site is presented in Table 9.1. This alternate site can be defined as a typical east coast site, although the specific example used was located within a 40 mile radius of West Palm Beach.[10]

The text went on to include a summary of the comparison appearing in Table 9.1 and to present a very short discussion of the evaluation of inland sites. No further facts relating to alternative sites were presented in the FES.

2. One of the contentions which the Licensing Board originally permitted the intervenors to place in controversy was the following (numbered 1.6(b)):[11]

> Whether the Staff's Final Environmental Statement has sufficiently considered alternatives to the proposed action including * * * alternative sites especially sparsely population areas such as Southwest Florida * * *.

After this contention going to the adequacy of the FES was admitted as an issue, the intervenors sought to discover information from the applicant concerning the site selection process it had gone through and the consideration it had given to alternative sites. Upon receipt of the applicant's responses to their inter-

---

[10] As may be seen, the staff carelessly characterized the location of the "specific example" to which it referred. The applicant had said that the alternative site was located "within a 40 mile radius", meaning within 40 miles *of the plant*, on the coast "near" West Palm Beach. That description, coupled with the information giving the approximate distance of the site from Riviera Beach, limited the location of the site to a relatively small area. The staff, however, stated that the alternative site was located "within a 40-mile radius of *West Palm Beach*" (emphasis added). That statement carries an entirely different, and much less precise, suggestion as to where the alternative site might be located.

[11] See Prehearing Conference Order, July 12, 1974 (Appendix A to Partial Initial Decision).

rogatories, the intervenors complained that the responses were "unsatisfactory" in that some of them were "incomplete and evasive". For that reason, the intervenors sought to compel further discovery; in particular they expressed the wish to learn "the exact physical location" of any alternative sites that had been considered by the applicant.[12] The Licensing Board rejected their complaint, expressing the view that, while in some respects further information might appropriately be furnished, in large measure the responses were "sufficient".[13]

3. On September 10, 1974, before the Board issued its ruling on the discovery dispute, the applicant moved for summary disposition of the alternative-site contention. Among the material facts about which it claimed there was no dispute were the following: (a) "the Final Environmental Statement considers matters raised by Contention 1.6 in Sections 9.1 and 9.2;" (b) "alternative sites have been considered;" (c) "by locating St. Lucie Unit No. II at the existing St. Lucie site, there will be less environmental impact, less site development and transmission costs, and much less land committed to power plant site use;" and (d) "the St. Lucie site is a more satisfactory location than a site in a sparsely populated area such as Southwest Florida".[14]

The staff supported the applicant's motion, asserting that it "ha[d] considered, and the Staff's Final Environmental Statement (FES) reflects, consideration of alternative sites which include any in Southwest Florida although the FES does not so state explicitly".[15] In furtherance of this assertion, the staff wished to have added to the applicant's list of undisputed material facts the following: (a) "alternative sites have been considered in the Staff's FES;" and (b) "the FES considers inland and coastal sites, which include any in Southwest Florida, although the FES does not so state".[16]

In support of its claim, the staff supplied an affidavit prepared on September 17, 1974 by John R. Young, the head of the staff's team of consultants who had evaluated alternative sites. He indicated (pp. 2-3) that:

> Alternative sites were evaluated by the staff and the results summarized in Section 9.1.2 of the FES. The approach used in that evaluation was a general evaluation of sites throughout the southern and eastern parts of Florida (*i.e.*, the Applicant's service area). Specifically, the analysis was based on coastal and inland sites, which are the only two types of sites available in those parts of Florida. This analysis applies to the southwest part of Florida, although not so stated in the FES. The site analysis was

[12] See "Motion to * * * Compel Discovery", August 30, 1974, p. 4. The intervenors did not press any similar discovery requests against the staff.

[13] See "Order on Intervenor's Motion * * *", September 24, 1974, p. 3.

[14] See "Statement of Material Facts * * *", and the accompanying "Affidavit of C. D. Henderson Relating to Contention 1.6(b)".

[15] Staff response, September 17, 1974, pp.4-5.

[16] "Staff's Proposed Additions * * *", September 17, 1974, p.2.

based on all normal power plant siting criteria, as illustrated by Table 9.1 of the FES, and showed that construction at the St. Lucie site is more desirable than construction at any other site because of lower costs and comparable or lower environmental impacts.

The intervenors opposed summary disposition of their contention. In doing so, they pressed their claim (which the Board below had not yet passed upon, see pp. 835-836, *supra*) that "the responses by the Applicant to their discovery attempts to ascertain alternative sites has been non-responsive, evasive and incomplete".[17]

In ruling on September 25, 1974 on the motions for summary disposition, the Licensing Board accepted the staff's supplemental statement of material facts relating to contention 1.6(b) and held simply that the intervenors' response was "not persuasive". Order, p. 4. On that basis, it granted the applicant's request and summarily dismissed the intervenors' alternative site contention.

4. The intervenors took the matter up with us on appeal.[18] In support of their claim that the Board below had erred in granting summary disposition of their contention, they made the following argument:[19]

> Originally Intervenors had planned to present their case on alternative sites through cross examination and discovery since only the applicant possessed this knowledge. But, Intervenors had difficulty with the Applicant in their effort to discover the number, locale, and identification of alterantive sites. The FES indicated the NRC Staff did not even know the identity of the single alternative site they list as having been considered in the FES Sec. 9.1.2 Table 9.1, which Intervenors regard as a serious omission by the Staff.

As noted at the outset of this opinion, we questioned staff counsel closely at the oral argument concerning the alternative site matter. After the argument, staff counsel made further inquiry into that subject and discovered the following information which was promptly passed on to us:

> * * * only one specific alternative site was considered in making the cost-benefit balance. That site is the one mentioned in the FES, Table 9.1. The exact identify of the site was unknown to the Staff at the time its cost-benefit balance was made because Applicant believed its location should not

[17] "Intervenor's Argument * * *", September 17, 1974 p. 1. More particularly, they there asserted: "In their response to interrogatories #61 of Intervenors, Applicant has designated the Flagler and Salerno Beach sites as the only alternative nuclear plant sites considered. Yet, when one reads the E.R. [sic; probably should be "FES"] for Unit 2 there is reference to an unidentified coastal site within 40 miles radius of West Palm Beach (which Intervenors suspect may be the one known as Riviera Beach site) and no mention of other alternative sites".

[18] The point was raised directly by exceptions 7 and 18. In briefing those exceptions, the intervenors also touched on other exceptions dealing with the question of alternatives.

[19] "Intervenors Briefs on Exceptions 2-45 * * *," p.10

be disclosed for proprietary reasons. The information used by Staff in making its analysis was provided by the Applicant. The Staff considered no other alternative sites.

The Staff used this approach because it believed that no alternative site could be found in this general service area which would be more cost beneficial. The reason for this approach is that the primary site preparation work for St. Lucie Unit 2 was done simultaneously with the site preparation work done for St. Lucie Unit 1. Because this work had already been done and because of the already existing environmental impact of St. Lucie Unit 1, the Staff was of the opinion that no better alternative site could be found in this general service area.

October 20, 1975 letter from staff counsel to the members of this Board, pp. 1-2.[20]

Upon receipt of the staff letter, we called for a further explanation of the matters adverted to therein (see our order of October 23, 1975). In essence, we were seeking information as to precisely what steps the staff had followed in evaluating the alternatives to the St. Lucie site and where (if anywhere) that information was reflected in the record before the Licensing Board.

The staff's response was a lengthy one, consisting of a twelve-page affidavit (dated November 10, 1975) and an accompanying legal memorandum. The affidavit, like the one that had been submitted to the Licensing Board, was prepared by John R. Young. It would lengthen this opinion unduly to recite here extensive portions of the affidavit itself. Instead, we can draw upon the characterizations of it which the staff put forward in the accompanying memorandum.

In essence, the alternative site analysis was based on a "best possible case approach". That is, the staff examined no specific alternative site, not even the one referred to in the applicant's environmental report. Instead, the evaluation was based upon "a composite of characteristics which would typify the best alternative coastal site".[21] A similar procedure was followed in evaluating the

[20] Although the staff might not have been able at the time it prepared the FES to ascertain the metes and bounds of the alternative site, it does appear that it could have roughly approximated its location by using the information the applicant did give it. See fn. 10, *supra*; but see dessenting opinion, *infra*, fn. 6 and accompanying text.

[21] As the staff's earlier letter to us had disclosed, the reason for this was that the staff believed no alternative site could be found in the applicant's service area which would be more cost beneficial than the St. Lucie 2 site. This approach had been suggested by the applicant when, in commenting upon the staff's draft environmental statement, it urged that the staff emphasize in the FES the alleged "overwhelming advantages" the St. Lucie site had over any alternative. See FES, pp. A46-A47. Although the staff papers now before us reveal that it perhaps did operate under that principle, the FES did not indicate that it did so (see pp. 839-840, *infra*).

alternative of an inland site.

The staff went on to claim that these procedures indeed were reflected in the record below. Specifically, it said that it had been Mr. Young's "intention" that pages 9-2 to 9-4 of the FES, as well as the affidavit he had submitted to the Licensing Board in support of the motion for summary judgment, were to have reflected "the total evaluating processes described in" the November 10, 1975 affidavit submitted to us.

After reviewing the staff's response, we asked all parties to brief us on its significance (see our order of November 28, 1975). In doing so, we posed a number of questions which we wished to have addressed. In substance, these questions were (1) whether NEPA permitted the use of the technique the staff said it had employed; (2) whether the record supported the staff's view that the characteristics it had put forward as representing the "best possible" hypothetical alternative site indeed accurately portrayed conditions in the regions under study; (3) whether the other parties had been given fair notice of the technique being utilized by the staff, "so that they could have the opportunity to challenge the underlying facts relied on or ultimate conclusions reached;" and (4) what remedy would be appropriate if we decided the Licensing Board's decision could not be affirmed.

Each of the parties duly filed responsive briefs with us. As part of its response, the staff submitted five more affidavits from the members of its site evaluation team (including another from Mr. Young, this one dated December 19, 1975) for the purpose of providing more information describing the nature of the technique they had used.

## B. RESOLUTION

The staff may be justified in claiming that its method of alternative site evaluation comported with NEPA in principle, accurately assessed the facts in this case, and resulted in a valid conclusion. But the outpouring of facts and methodology in its post-argument affidavits has not yet been tested. Nor have the several affiants been required to defend against possible challenges to their approach. We therefore find it inappropriate to pass upon the merits of the staff's alternative site evaluation. All we can decide at this juncture is that the intervenors had no fair opportunity to contest the matter.

Our holding rests on an elementary ground: the staff's post-argument version of the procedure it followed is not fairly reflected in the record below, upon which the Licensing Board summarily disposed of the alternative site contention. Had that information been fairly presented to the Licensing Board, the intervenors' failure to respond substantively to the motion for summary

disposition (by way of countering affidavits disputing the effectiveness or accuracy of the staff's procedures or through some other method) might have justified the Licensing Board's summary handling of the alternative site contention. But the Board's rejection of this contention was premised on its unwitting acceptance of an incomplete–and to a marked degree misleading–explanation of what was involved.

We need not belabor the point. As our recitation makes clear (pp. 835, 836-837, *supra*), the discussion of alternative sites which the staff supplied to the Board was quite abbreviated. Its cursory and uninformative character stands out all the more when compared to the materials submitted recently. A fair examination of the record before the Board below does not disclose even in broad outline the manner in which the staff now says it proceeded. The post-argument papers reveal for the first time the "hypothetical site" approach the staff utilized in its alternative site evaluation. The differences are pervasive; the most obvious particular instance involves the staff reference in the FES to the "specific example used" in drawing a comparison between the St. Lucie site and "another coastal site". This manifestly indicates–contrary to fact–that the staff had reveiwed and rejected at least one other actual site on Florida's east coast.[21a] Approval may not be given to an FES which treats in such a cavalier and misleading fashion one of the most important questions which NEPA requires to be considered.[22] The intervenors' contention challenging the staff's action in this area should have been allowed to stand until the staff was able, either by way of uncontroverted affidavits or at a hearing, to explain precisely what it did and to establish that its approach was legitimate.

In short, we are compelled to the conclusion that neither the FES nor any other relevant documents filed with the Board below set out the process that the staff had followed with anything approaching sufficient clarity to permit the result the staff advocated to be put summarily beyond challenge.[23] Only after a full explanation was forthcoming could the intervenors be held accountable for failing to counter a motion for summary disposition of this issue.

We therefore have no choice but to reinstate the alternative-site contention

---

[21a] Indeed, the staff told the Board it had evaluated sites "throughout the southern and eastern parts of Florida" (see p. 836, *supra*).

[22] The nature of the treatment the FES gave to the question of alternative sites stands in marked contrast to the specificity and attention to detail employed, for example, in its discussion of the terrestial and aquatic biota found in the region. See FES pp. 2-25, 2-27, and 2-28–2-34. We remain puzzled, as we have expressed ourselves to be in the past, by the tendency of the authors of environmental statements to pay excessive attention to minutiae while glossing over the most important subjects.

[23] As noted above (p. 839, *supra*), Mr. Young expressed the view that it was his "intention" that the materials before the Licensing Board "reflect the total evaluating processes" now put forward. That intention was not effectuated.

. and call for whatever further proceedings are necessary to resolve that contention on its merits, either by summary process (if the facts the staff has put forward remain uncontroverted) or after a hearing. In either case, the parties shall brief—and the Board below decide—whether the staff's technique satisfied NEPA.[24]

Notwithstanding that the parties have asked us to do so, there exists no reason why we should conduct such additional proceedings ourselves. In any event, the congestion of our own docket precludes us from taking on such an assignment. Accordingly, we decline the staff's and applicant's invitations to pre-empt the Licensing Board's role. Instead, following the ordinary course, we are remanding the matter to the Licensing Board for its consideration. It goes without saying that the intervenors are entitled to participate fully in any proceedings to resolve the issues involved, and that it is for the Board below to determine what procedures are appropriate.

## III. INTERVENORS' OTHER EXCEPTIONS

We have considered all the other exceptions briefed by the intervenors and have found nothing in them which would cause us to disturb the Licensing Board's decision. In nearly all instances, the reasons that Board gave for taking the challenged action are adequate in themselves to demonstrate that there is no substance to the points raised by the intervenors.[25] Nothing would be added

---

[24] In this connection, we might note that there is no substance to the staff's argument that the court of appeals which reviewed the Commission's *McGuire* decisions "found that the AEC's consideration of the alternative sites" in that case, which the staff claims to have involved "fundamentally the same" siting evaluation technique as used here, was "within the scope of the reasonableness test * * *". See NRC Staff Response, December 19, 1975, p. 7. A reading of the court's decision reveals that the question of alternative *sites* was neither in issue before it nor addressed by it. *Carolina Environmental Study Group* v. *United States*, 510 F.2d 796, 800-01 (D.C. Cir. 1975).

[25] We do note that in several instances the rulings under attack were compelled by principles embodied either in Commission regulations or in Commission or Appeal Board precedent.

One such instance involved the intervenors' attack upon the Price-Anderson Act. Such a challenge may not be heard in this forum. Before us, the intervenors attempt to avoid the force of this principle by arguing (although it is not fairly encompassed within the contention put forward below) that the impact of the Act's limitation of liability should at least be considered in the NEPA cost-benefit balance. But that balance already takes into account the consequences of a major accident, as discounted by the low probability of such an occurrence. Particularly in light of that low probability, the additional fact that victims might not be fully compensated—*i.e.*, that the loss would not be redistributed among all members of society—does not alter the balance significantly.

Another instance of a forbidden claim involved the intervenors' amalgamated "financial

(Footnote continued on next page)

were we to rephrase what the Board below said.[26]

## IV. INTERIM RELIEF

The question remains as to the status of the outstanding LWA. For now, we are leaving it in effect. The St. Lucie site is not a virgin one; as the Licensing Board found, "little additional site preparation" is involved in adding a second unit[27] and thus little consequential environmental damage would occur if the limited work thus far authorized were permitted to go forward while the open questions are being resolved. In this circumstance, we find it appropriate to leave the limited work authorization in effect while the Board below undertakes the additional proceedings which are required. See *Southern California Edison Co.* (San Onofre Units 2 and 3), ALAB-212, 7 AEC 986, 996-97 (1974). As we said there, however, if "at any stage of the proceedings on remand, the Licensing Board receives evidence which suggests that the public interest would be best served by an interim suspension * * *, it is fully authorized to order such relief." *Id.* at 997.

As we mentioned earlier, the Board below thus far has passed only upon the questions related to the LWA; it still has before it the applicant's request for a construction permit. Although the remand which we have directed does not deprive that Board of the freedom first to decide those matters which are otherwise before it, the Board is directed not to authorize the issuance of any construction permit until it has passed upon the matter which is the subject of the remand. The action the Board then takes, both in terms of the existing LWA and the requested construction permit, will depend upon how it resolves all the questions now before it.

---

(Footnote continued from previous page)
qualifications–waste disposal" contention, which the Board below refused to entertain. As the Commission's regulations required it to do, the Board did take into account the environmental costs of waste storage. 1 NRC at 154, ¶120. And the financial cost of the plant reflects the fee to be charged by the government for such storage. The intervenors did not claim that the applicant was likely to be financially incapable of paying that fee. Rather, they claimed that the government should not perform that service at all. Because that claim was beyond the Board's jurisdiction to consider, no purpose could have been served by hearing the related assertion that the applicant might lack the financial wherewithal to undertake permanent waste storage itself.

[26] One matter which the Board below had no occasion to consider deserves brief mention. The intervenors' exception 45 urges us to rule that certain documents relating to water quality matters should not have been admitted into evidence. While that claim is not well-taken in any event, their failure to object below bars their raising the claim before us. (The only objection they did make had to do with the relationship of other phases of the proceeding to the timing of the introduction of the documents. See Tr. 3300-06).

[27] 1 NRC at 155, ¶124.

## V. THE APPLICANT'S EXCEPTION

The applicant has appealed from the Licensing Board's imposition of a requirement that it connect the nuclear plant to municipal sewage treatment facilities "as soon as a sewer line on Hutchinson Island is brought within approximately five miles of the plant".[28] The applicant had earlier committed itself to such a connection when a sewer line reached the site. Its objection, then, goes to the Board's requirement that it do so when the sewer line is still five miles distant.

Neither in its initial decision nor in its opinion on reconsideration did the Licensing Board make clear precisely what motivated it to include the "five mile" condition. And our search of the record has revealed nothing which would lend support to such a requirement. Ordinarily, then, we might simply grant the applicant's exception and reverse the Licensing Board outright. But, as noted above, this proceeding must go back to the Licensing Board for other purposes. Since it is possible that the Board had sufficient (albeit unstated) reasons for imposing the condition, we perceive no harm in giving it the latitude to consider the matter anew, giving each party such opportunity to be heard as is appropriate in the circumstances. Accordingly, we vacate the "five mile" condition but leave it open to the Licensing Board to reinstate that condition, so long as it articulates its reasons for doing so. We will then be able to determine, if any subsequent appeal is taken, whether those reasons find support in the record.

## VI. CONCLUSION

For the reasons stated above, the partial initial decision is *affirmed in part* and *reversed in part* and the matter is *remanded* to the Licensing Board for further proceedings not inconsistent with this opinion.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING APPEAL BOARD

Margaret E. Du Flo
Secretary to the Appeal Board

[28] Partial Initial Decision, par. 105, 1 NRC at 147, as reconsidered, 1 NRC at 465-66.

**Mr. Salzman, dissenting:**

In a nutshell, the Final Environmental Statement for this plant represents that applicant's proposed St. Lucie site had been "compared to another coastal site" by the staff and that *"the specific example used* was located within a 40 mile radius of West Palm Beach," but not otherwise identified. F.E.S. §9.1.2. at p. 9-2 (emphasis supplied). Intervenors' contention that alternative sites had in fact not been properly considered was thereafter summarily dismissed by the Board below in express reliance upon that F.E.S. representation.[1] Limited work authorizations were later granted to the applicant.

When asked at oral argument on appeal to identify the "specific example" of an alternative site referred to in the F.E.S., staff counsel could not do so.[2] This inability was eventually cleared up post-argument, when the staff acknowledged on November 10, 1975, that it had never used any "specific example" of an actual alternate site for comparison purposes.[3] Rather, it disclosed that a completely different procedure had been followed, one which did not compare the St. Lucie site to other points in Florida at all, but rather made that "comparison" with "composite"–*i.e.*, hypothetical–sites.[4] As the majority's opinion renders all too clear, the staff's use of this interesting technique had never been revealed to the Licensing Board–much less to intervenors.

Moreover, the applicant actually did evaluate other property on the Florida east coast as a possible substitute for the St. Lucie site, but withheld the specific location of that alternative from the staff. The latter did not press for its disclosure, although admittedly "the exact identity of the site was unknown to the staff at the time its cost-benefit balance was made."[5] Papers filed with us post-

[1] This is confirmed by paragraphs 5 and 116 of the Licensing Board's initial decision, 1 NRC at 103 and 152, fn. 349.

[2] See pp. 837-838, *supra*.

[3] See pp. 838-839, *supra*.

[4] "The geographical locations used for the site analyses were general locations rather than locations which could be identified by coordinates on a map." Affidavit of Mr. John R. Young, dated November 10, 1975, p. 2, appended to the "NRC Staff's Response, etc., Concerning Site Selections," dated November 14, 1975.

[5] Staff Counsel's letter to Appeal Board dated October 20, 1975. See pp. 837-838, *supra*.

[6] Affidavits attached to the applicant's Supplemental Memorandum of December 19, 1975 reveal that applicant's alternative site was on the Florida mainland, about a mile and a half south of Jupiter Inlet which is at the southern end of Jupiter Island. On the basis of maps and affidavits supplied by the staff, it seems that the staff assumed the applicant's alternate site to have been on Jupiter Island itself, toward its northern end. The distance between those points is roughly comparable to that between Alexandria, Virginia and Bethesda, Maryland. The applicant's suggestion (Supplemental Memorandum, p. 11) that the "few miles' difference between the two sites is insignificant," does not tell the whole story. Among other things, a facility on Jupiter Island itself might intrude not only on a state park, but on extensive residential and resort developments, unfavorable characteristics not shared by the alternative site on the mainland actually considered by the applicant.

argument reveal that, as a result, until recently the staff appears to have labored under the misconception that applicant's alternate site was a dozen miles up the Florida coast from its actual situation.[6]

None of the foregoing is disputed. The National Environmental Policy Act requires the staff to consider possible alternative locations before approving any plant site,[7] and this Commission's regulations make the issuance of a limited work authorization hinge on the proper completion of that NEPA review.[8] My colleagues agree that neither NEPA's mandates nor the Commission's regulations could be satisfied by "an FES which treats in such a cavalier and misleading fashion one of the most important questions NEPA requires to be considered;" and are ordering the cause remanded for further proceedings because "the intervenors have had no fair opportunity to contest the matter." *Supra*, pp. 839-840. Nonetheless, though grounded on that unfair hearing, the majority allows the limited work authorizations sanctioned by the Board below to stand. That we possess authority to leave an LWA undisturbed while ordering a remand I readily agree;[9] whether equity calls for our exercise of that discretion in the exigencies of this case is another matter entirely.[10]

The record makes it embarrassingly clear that the staff failed to provide the Licensing Board with that "detailed and careful analysis" of alternatives to the St. Lucie site which the law requires. *National Resources Defense Council* v. *Callaway*, 524 F.2d 79, 92 (2nd Cir. 1975). The information withheld by the staff was an essential part of what the courts have characterized as the very "linchpin of the environmental impact statement." *Ibid.* Yet the issue of putting the St. Lucie plant on some alternate site was fairly and timely raised by the intervenors. It was summarily rejected only because the Board below was led astray by what my colleagues charitably call "an incomplete—and to a marked degree misleading—explanation" of what the staff had done in the way of examining those alternatives. *Supra*, p. 840. Because it deliberately kept the staff in ignorance of the actual location of its alternate site, the applicant cannot escape a measure of responsibility for the staff's failure to take the requisite

[7] *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear-1), ALAB-222, 8 AEC 229, 265 (1974), *reversed, sub nom. Porter County Chapter* v. *AEC*, 515 F.2d 513 (7th Cir.), *reversed and remanded, sub nom. Northern Ind. Pub. Serv. Co.* v. *Walton League*, 423 U.S. 12 (1975), *affirmed, sub nom. Porter County Chapter* v. *AEC*, No. 74-1751 (7th Cir., Apr. 18, 1976).

[8] 10 C.F.R. §50.10(3)(1) and (2). See *Kansas Gas and Electric Company* (Wolf Creek Unit 1), ALAB-321, NRCI-76/4, 293 (1976), and ALAB-331, NRCI-76/6, 771 (June 8, 1976) (Commission review pending).

[9] *San Onofre*, ALAB-212, *supra*, and cases cited at 7 AEC 997.

[10] *See Wisconsin Electric Power Co.* (Point Beach, Unit 2), ALAB-82, 5 AEC 350, 351-52 (1972); *City of New York* v. *United States*, 337 F. Supp. 150, 163-64 (E.D.N.Y. 1972) (three-judge court).

"hard look" at that alternative.[11] Nevertheless, the applicant joined in–nay initiated–the motion for summary disposition of this issue.

Both parties thus bear responsibility for the circumstances which led the Board below improperly to dispose of the alternate site issue in their favor. And neither is in a position to complain that it would be "inequitable" for us to direct a return to the *status quo ante* by lifting the LWAs. I would do so. Whether we should take that action in this case hinges not on whether "little consequential environmental damage would occur if the limited work thus far authorized were permitted to go forward", as my colleagues seem to believe, p. 842, *supra*.[12] Rather, it turns on our obligation to preserve the integrity of the Commission's hearing procedures and its NEPA processes. We give cause to doubt the strength of our commitment where, when occasion arises to implement those policies, we speak–but do not act–forcefully. I therefore respectfully note my dissent.

[11] See *Kleppe* v. *Sierra Club* _____ U.S. _____ (Nos. 75-552 and 75-561, decided June 28, 1976, slip opinion p. 17, fn. 21).

[12] As this Board has ruled within the month, whether an applicant may engage in construction in advance of an LWA is contingent upon the work to be undertaken having "so trivial an impact that it can be safely said that no conceivable harm would have been done to any of the interests sought to be protected by NEPA should the eventual outcome of this proceeding be a denial of the * * * application." *Wolf Creek*, *supra*, ALAB-331, p.777. No such finding has been made in this case.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-25

ATOMIC SAFETY AND LICENSING BOARD

Sheldon J. Wolfe, Chairman
Dr. J. Venn Leeds
Joseph F. Turbridy

In the Matter of

PUBLIC SERVICE COMPANY OF INDIANA

(Marble Hill Nuclear Generating Plant, Units 1 and 2)

Docket Nos. 50-546-A
50-547-A

June 15, 1976

The Licensing Board denies petitioner's untimely motion for leave to intervene and request for an antitrust hearing.

RULES OF PRACTICE: NONTIMELY INTERVENTION PETITIONS

When an untimely intervention petition is filed which seeks to raise antitrust matters, factors two, three, and four set forth in Section 2.714(a) do not obtain if there is no ongoing antitrust proceeding.

## MEMORANDUM AND ORDER

On March 12, 1976, the Kentucky-Indiana Municipal Power Association (KIMPA) filed a Motion for Leave to File Untimely Petition to Intervene and Request for Hearing on the Antitrust Aspects of the Application. On April 7, 1976, Applicant and the NRC Staff filed their respective answers opposing said Motion. Thereafter, on May 6, 1976, the Board heard oral agruments upon KIMPA's Motion.

### I. BACKGROUND[1]

Pursuant to a Joint Agreement entered into on February 7, 1973 by four cities in Indiana and two cities in Kentucky, KIMPA was established for the purpose of investigating and developing a joint power supply for and among the municipal utilities of these six cities and such other municipal or public utilities

[1] This background statement is based upon KIMPA's and Applicant's submissions, inclusive of documents furnished after the oral argument, and upon undisputed factual matters presented by Counsel during the course of the oral argument.

as might join in such efforts. (As of January 1975, the Indiana cities of Crawfordsville, Ferdinand, Tipton, Washington and Huntingburg, and the Kentucky cities of Frankfort and Paris, were members of KIMPA). The Attorney General of Indiana approved the Joint Agreement on March 13, 1973, but noted that said agreement was subject to the approval of the Public Service Commission of the State of Indiana to the extent that said Commission had jurisdiction.

Under date of November 18, 1974, KIMPA's president wrote to Applicant that, on November 14, 1974, its Board of Directors had elected to participate in the Marble Hill Nuclear Generating Station, Units 1 and 2, as a tenant in common with Applicant and with Northern Indiana Public Service Company (NIPSCO); that KIMPA was willing, subject to certain conditions, to participate to the extent of 6.64%; and that, having been previously advised that Applicant would like to receive a notice of the intent to participate on or before January 1, 1975, the instant letter would serve as such official notice. Further, KIMPA's president advised that the commitment was subject to verification of cost estimates and other plant specifications provided by Applicant and that, since it was KIMPA's intention to finance its undivided interest through the issuance of tax-exempt municipal revenue bonds, KIMPA needed adequate lead-time to arrange for the issuance of bonds.

By letter dated January 2, 1975, Applicant responded as follows:

> "The request of your association on behalf of the Indiana and Kentucky municipalities which it represents for such municipalities to participate in our Marble Hill Generating Station Units 1 and 2 as tenants in common with us and Northern Indiana Public Service Company is hereby acknowledged. Subject to clearance of certain legal problems and to you clearing up the problem delineated in the next paragraph, we shall plan on your participation to the extent of 6.64% of the plant's gross capability or about 150,000 kilowatts of power and associated energy.
>
> "Your letter requesting participation was made 'subject to verification of the cost estimates and other plant specifications provided by the Company'. We are at a loss to know what this means as we have furnished to you or to your engineers all of the cost and engineering data which was requested. If this means that if later and more accurate cost estimates or other plant specifications are not acceptable to the municipalities, that they can pull out of the project, this is not an acceptable condition to us. This project will take another nine years to complete and during that period inflation may make our cost estimates at this point in time look exceedingly low. You should realize that, if you want to be a part of this project, you will have to assume the same risks as we. Clarification of this point is absolutely necessary before we proceed with the work to put the municipalities in this project as tenants in common. We must know whether the municipalities are in or out. Assuming you will clarify this condition to our satisfaction, I shall outline a suggested procedure for you.

"In order that an initial draft of the agreement for tenancy in common may be prepared for submittal to you, we need to know the names of each of the participating municipalities and the exact percentage of participation of each, as each participating municipality will have to be a party to and execute the agreement. Also, for purposes of preparing a draft of a transmission service agreement we need for you to furnish to us the point where the power from Marble Hill is to be delivered to each municipality and the voltage. In the case of those municipalities not connected with our transmission system, please provide the point at the end of our transmission system where you want it delivered and the delivery voltage. As Mr. C. W. Campbell has outlined to you, we will provide transmission service to you at 138 KV or higher at your selected delivery point on the same basis as we are providing such service to Northern Indiana Public Service Company, i.e., the lesser of 20% of the cost of the transmission facilities required to make deliveries or $11.50 per net kilowatt of NIPSCO's share of the capacity of the generating station. In addition, there will be a transmission service charge for municipalities wanting delivery at less than 138KV. If any existing transmission line on our system has to be upgraded for delivery to a municipality, we will undertake to make such upgrading upon the municipality making a nonrefundable contribution in aid of construction equal to the estimated cost of upgrading such line.

"So that there may be no misunderstandings between us from the beginning, our attorneys have the opinion that you have some legal problems which you must resolve before we proceed too far with this joint participation. These problems may limit your ability to finance your part of the project and I suggest that you have your attorney consult with our Mr. Campbell on this matter at his earliest convenience.

"In reply to your request as to the scheduling of payments by the municipalities to us on the project, I suggest for your consideration the following formula: Each municipality advance to us (i) 25% of the estimated cost of its participation on or before July 1, 1975, and 50% of the estimated cost within 120 days after the date (presently estimated to be July 1, 1977 or as early as July 1, 1976) the Atomic Energy Commission (or its successor) issues a construction license to us. Such advance payments would be placed in escrow to be withdrawn from time to time by us against submission to the escrow agent of bills for expenditures. The balance of the actual cost of each municipality's portion would be paid to us at the date construction of the units is completed. In the event any municipality, after making one or more advance payments when due, fails to make further payments when due, such municipality would only be entitled to participate in the nuclear units in an amount equal to the relationship its total payments bear to our total investment in the nuclear units associated transmission facilities. This advance payment formula has the advantage of

having your low cost of money in the project for a longer period. If we bill you after money is spent or after the project is completed, you would be, in effect, paying on your portion of the investment our higher cost of money prior to reimbursing us. It has the advantage to us that, in what appears may be a tight money market for us, we will not have to raise in the capital markets the amounts you advance.

"It is our understanding that each municipality should immediately prepare and submit to the Atomic Energy Commission Appendix L to CFR Part 50.

"We shall be pleased to meet with you at our headquarters in Plainfield to discuss preparation of the documents to implement the participation of each of the municipalities on January 15 or 17, 1975."

In a letter to Applicant dated March 13, 1975, KIMPA advised that the Antitrust Division of the Department of Justice had indicated that it had reached agreement with Applicant regarding the conditions which would be recommended for inclusion in any construction license and that the letter of advice would be issued in about two weeks. KIMPA further stated that, since the Antitrust Division had indicated that there was a strong possibility that the Marble Hill share allocable to KIMPA might be reduced to 5% as opposed to 6.64% originally requested by KIMPA and agreed to by Applicant, it would appreciate being informed whether Applicant intended to reduce its participation to 5% and, if so, why such action was necessary in light of the earlier agreement.

By letter dated April 2, 1975, Applicant responded as follows:

"This will acknowledge receipt of your letter of March 13 inquiring about the proposed antitrust conditions that the Company has agreed may be imposed in its construction permit for Marble Hill. As you have surmised, the Justice Department has insisted that participation in Marble Hill remain open until December 1, 1975, to all neighboring entities and neighboring distribution systems who expressed an interest in such participation prior to January 1, 1975. Therefore, we have no way of making a final determination concerning participation by KIMPA or any other requesting entity prior to December 1, 1975.

"There are two agreed participants in Marble Hill, the Company and NIPSCO. Fifteen percent of the capacity of the two units remains available for participation by third parties. Contrary to the assertions contained in your letter, the Company has not agreed that KIMPA will be a participant or that KIMPA is entitled to participate to the extent of 6.64%. We acknowledge that KIMPA made a timely request for participation and is entitled to pursue that request up to December 1, 1975. We believe that the Company has dealt with KIMPA in good faith, and the Company intends to continue to do so. In view of the position taken by the Justice Department,

however, there can be no assurance, prior to December 1, 1975, that KIMPA will receive the full amount of participation that it has requested.

"The Company remains fully prepared to negotiate and conclude a contract with KIMPA for participation in Marble Hill, subject to the condition that KIMPA's participation may be required to be reduced below 6.64% upon review following December 1, 1975. We share with you a sense of frustration at being unable to arrive at a definitive agreement prior to that date, but we have no alternative in light of the attitude taken by the Justice Department.

"While we have referred to KIMPA throughout this letter as an entity which can deal with us, this reference includes the members of KIMPA in the event KIMPA is not in a legal position to participate. To date I have not received any of the information with respect to KIMPA's legal status that I suggested you provide at our meeting in my office last January 15th. Also, we have not received any of the information requested in Mr. Barker's letter, dated January 2, 1975, addressed to Mr. Tinder. It would be most helpful to us if you would provide all of this information at the earliest possible date."

On April 28, 1975, the Nuclear Regulatory Commission published in the *Federal Register* (40 *Fed. Reg.* 18511) the Attorney General's advice concerning the antitrust aspects of the application for a construction permit for the Marble Hill Nuclear Power Plant. Therein the Attorney General stated:

> . . . In the course of our antitrust review, the Department received certain allegations, the general import of which was that Applicant has used its dominant position in generation and transmission in its service area to restrain the competitive opportunities for smaller systems with respect to bulk power supply. For its part, Applicant denied these allegations and denied that its bulk power supply policies and practices have been or are inconsistent with the antitrust laws. In order to eliminate any questions as to the policies that it intends to follow in the future, Applicant has formalized its policies in a Statement of Bulk Power Supply Policies.[2] These policies are set out in the attachment to the letter of Applicant's president, dated March 18, 1975, which is attached hereto. Applicant had also indicated its willingness to have this Statement incorporated in the license for Marble Hill Nuclear Generating Station.

[2] Part VII, *Access to Nuclear Generation,* provided in subparagraph (a) that Applicant would afford any neighboring entity or neighboring distribution system that "has made a request prior to January 1, 1975 an opportunity to participate in the ownership" of the Marble Hill Nuclear Units, and provide in subparagraph (c) that any such entity or system making "a timely request for participation must enter into a legally binding and enforceable agreement by December 1, 1975".

"In our opinion, the effectuation of these bulk power supply policies would moot all relevant issues as to which allegations of anticompetitive conduct on the part of Applicant were made to the Department. The implementation of these policies should provide competitors of Applicant with reasonable opportunities to maintain and further develop competitive sources of bulk power supply. Since the Company is agreeable to having the Commission include this Statement of Bulk Power Supply Policies as conditions to the license, and since we believe the Company has already taken steps to implement these policies, we conclude that an antitrust hearing will not be necessary with respect to the instant application, if the Commission issues a license so conditioned."

The *Federal Register* notice advised that any person whose interest may be affected by this proceeding may, pursuant to 10 CFR §2.714 of the Commission's Rules of Practice, file a petition for leave to intervene and request an antitrust hearing, and that such petitions should be filed by May 28, 1975. KIMPA did not file on or before May 28, 1975.

On July 16, 1975, KIMPA filed a petition with the Public Service Commission of Indiana wherein it sought approval of the Joint Agreement and of the activities planned thereunder, and sought authorization to issue bonds. Applicant intervened in the case, filing its brief on October 30, 1975. Therein, Applicant opposed KIMPA's petition because (1) KIMPA asserted that Applicant did not have a certificate of public convenience to serve the cities of Washington, Crawfordsville, and Tipton, (2) if the Joint Agreement was approved, KIMPA would be able to serve the aforementioned three cities who were Applicant's customers, and (3) in seeking approval of the Joint Agreement and authorization to issue bonds, KIMPA was requesting a declaratory judgment which was not authorized under Indiana law. To date, the Public Service Commission of Indiana has not decided the case.

On October 8, 1975, the Nuclear Regulatory Commission published a separate notice of opportunity for hearings on the radiological health, safety and environmental aspects of the Marble Hill construction permit application (40 *Fed. Reg.* 47219). On November 28, 1975, KIMPA filed a petition to intervene, which, while expressing support for the application to construct the Marble Hill facility, complained that Applicant has excluded KIMPA from participation, assertedly contrary to the conditions recommended by the Attorney General and agreed to by Applicant. The petition asked the Licensing Board for additional time to negotiate for participation, but if Applicant resisted such an extension, then the issues set for hearing before the Board be expanded to include antitrust issues. The Licensing Board agreed with Applicant's and the Staff's position that its jurisdiction was limited to the health, safety, and environmental aspects of the application, and, on January 19, 1976, entered an order denying intervention. In NRCI-76/3-167 (March 3, 1976), the Atomic Safety and Licensing

Appeal Board affirmed the decision of the Licensing Board. On March 12, 1976, KIMPA filed the instant Motion for Leave to File Untimely Petition to Intervene and Request for Hearing on the Antitrust Aspects of the Application.

Meantime, on January 8, 1976, in a letter Applicant advised KIMPA that none of the information requested in its (Applicant's) letter of April 2, 1975 had been furnished. The letter further stated that:

> "KIMPA has known since January 1975 that it was required to provide certain information and legal assurances in order to obtain participation in Marble Hill. KIMPA has known since not later than April 15, 1975 that, under the agreed license conditions approved by the Department of Justice, it had to complete certain actions by December 1, 1975, or forfeit its claim to preferred treatment. The record of KIMPA's delay and inaction in response to those requirements and deadlines speaks for itself. Nevertheless, PSI remains willing to negotiate with KIMPA or its individual members on a businesslike basis.
>
> "According to the conditions set forth for participation in Marble Hill (40 *Fed. Reg.* 18511) PSI is free to sell, after December 1, 1975, the 15% of the Marble Hill units to any entity it chooses, including the municipalities represented by KIMPA. PSI will sell the interest to such entities that are legally capable of entering into a binding agreement with PSI and can satisfy PSI of their financial responsibility. At the present time, two entities that apparently meet these conditions, Wabash Valley Power Association (representing 21 rural electric cooperatives) and East Kentucky Power Cooperative, have expressed their interest in participation. Should an agreement be reached for the sale of 15% to those parties, or others, there will be no capacity left for KIMPA to buy. Prompt action by KIMPA, or its individual members, to reach agreement with PSI is therefore still desirable even though the December 1 deadline has passed.
>
> "For PSI to wait two more years on the municipalities represented by KIMPA to decide whether they can legally participate in Marble Hill or not, or can finance their share, is unreasonable and unbusinesslike. In KIMPA's intervening petition to NRC in Docket Nos. 50-546 and 50-547 this is what KIMPA requested. If such request is granted, PSI would have approximately $100,000,000 of investment in Marble Hill that it could not sell for two years and, if at the end of two years, KIMPA decided not to purchase the interest, PSI would have to absorb such investment if it could not find another purchaser at that time. KIMPA wants PSI to take all of the risks and assume none of the risks itself."

In a letter dated February 24, 1976, KIMPA furnished certain of the information requested in Applicant's letter of January 2, 1975. However, it noted it was unable to furnish information regarding its legal status because this matter has not been resolved by the Public Service Commission of Indiana. KIMPA also

noted that its bond counsel and its general counsel had advised that the Public Service Commission should also be requested to resolve the question of whether KIMPA could issue and sell securities in order to purchase a share of the Marble Hill facility.

In a letter of intent signed respectively by Applicant and the Northern Indiana Public Service Company on August 2 and August 8, 1974, said companies agreed to own the Marble Hill units as tenants in common with Applicant's ownership to be 80% and NIPSCO's to be 20%. In a letter of intent signed respectively by Applicant and the Wabash Valley Power Association on December 15 and December 22, 1975, said companies agreed that NIPSCO would own 20%, that WVPA would own up to 15% (subject to reduction by PSI to a percentage necessary to include other possible tenants in common), and that Applicant would own the balance of the nuclear facility. In a letter of intent signed respectively by Applicant and the East Kentucky Power Cooperative, Inc. on February 5 and March 9, 1976, said companies agreed that NIPSCO would own 20%, that WVPA would own up to 15% (subject to reduction by PSI to a percentage necessary to include other possible tenants in common), that EKPC would own the balance of such 15% but not less than 8%, and that Applicant would own the balance of the nuclear facility. As of May 6, 1975, final agreements had not been executed by Applicant with NIPSCO, WVPA, and EKPC.

## II. CONCLUSION

**Under The Circumstances Herein, The Delay In Filing A Petition To Intervene Was Inexcusable.**

KIMPA asserts that, while it had agreed with the Attorney General that an antitrust hearing would not be necessary if the Nuclear Regulatory Commission issued a license conditioned upon the inclusion therein of the Statement of Bulk Power Supply Policies, it deemed that the cut-off date of December 1, 1975[3] for participation in the Marble Hill nuclear facility was arbitrary and unreasonable, and represented a means to perpetuate Applicant's conspiracy in restraint of trade and/or monopoly over the large-scale generation and transmission facilities in Indiana. During the course of oral argument KIMPA advanced two reasons in justification of its failure to file a petition to intervene and request an antitrust hearing by the deadline of May 28, 1975.

First, KIMPA asserts that it decided not to contest the cut-off date in an antitrust proceeding before the Nuclear Regulatory Commission on or before May 28, 1975 because it expected the issue would be mooted prior to December 1, 1975 by a prompt determination of the Indiana Public Service Commission. It

[3] From the record before us, we conclude that December 1, 1975 was the result of a compromise between the Applicant and the Department of Justice. The former favored July 1, 1975 as a cut-off date for participation because it planned to file the application for a construction permit on that date, while the latter insisted on a later date.

urges that Applicant's intervention in the state proceeding served to delay a determination and that, as a result, it was unable to evidence to Applicant that it could legally engage in the utility business and was financially responsible.

Second, KIMPA argues that, prior to July 16, 1975, it could not invoke the jurisdiction of the Indiana Public Service Commission because no decision had been made to participate in the Marble Hill facility and thus there was no need to seek a determination of whether it could engage in the utility business and issue bonds. In support of this argument, KIMPA asserts that, prior to July 16, 1975, its wary, dilatory bond counsel had not recommended initiating a proceeding before the Indiana State Public Service Commission and its members' municipal governments had not approved its Board of Director's resolution to initiate those proceedings.

We find the first argument to be singularly unconvincing. Indeed, during the course of the oral argument, KIMPA's counsel advised us that Applicant's intervention in the state Public Service Commission proceeding was not a sham[4] and that KIMPA had been "quite certain" that Applicant would intervene in that case. Quite obviously, KIMPA could and should have filed a protective petition with the Nuclear Regulatory Commission on or before May 28, 1975. The second argument not only lacks merit but is irrelevant as well. It is unmeritorious because as early as March 13, 1973, KIMPA was aware that the Joint Agreement establishing it was subject to the approval of the Indiana Public Service Commission. Again, by November 14, 1974, when its Board of Directors voted to participate in the Marble Hill facility, KIMPA recognized that it needed "adequate lead-time" to arrange for the issuance of bonds to finance such participation. Finally, by January 2, 1975 Applicant specifically notified KIMPA that it had legal problems which had to be resolved before any participation could be effected. Further, the second argument is irrelevant because, whatever its internal and/or legal problems were, KIMPA could and should have petitioned to intervene on or before May 28, 1975.

Pursuant to the Rules of Practice, 10 CFR §2.714(a),[5] the appropriate

[4] Contrast *California Motor Transport Co., et. al.* v. *Trucking Unlimited, et. al.* 404 U.S. 508 (1972)

[5] Section 2.714(a) provides in pertinent part:

. . . Nontimely filings will not be entertained absent a determination by the Commission, the presiding officer or the atomic safety and licensing board designated to rule on the petition and/or request that the petitioner has made a *substantial* showing of good cause for failure to file on time, and with particular reference to the following factors. . . .

(1) The availability of other means whereby the petitioner's interest will be protected.

(2) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.

(3) The extent to which petitioner's interest will be represented by existing parties.

(4) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

disposition of untimely petitions depends upon both (1) the sufficiency of the justification, if any, offered for the tardiness and (2) the assessment of the four factors set forth therein. *Virginia Electric and Power Company* (North Anna Station, Units 1 and 2), ALAB-289, NRCI-75/9 395, 396. As is evidenced, *supra,* KIMPA has not showed that its failure to file the petition on time was due to circumstances beyond its control. See *Long Island Lighting Company* (Jamesport Nuclear Power Station, Units 1 and 2), ALAB-292, NRCI-75/10 631, 646. Upon proceeding to consider the factors set forth in Section 2.714(a), we conclude that the second, third and fourth factors obtain only where there is an on-going antitrust proceeding, and thus do not apply herein. As to the first factor, while apparently there are no other available means whereby KIMPA can itself protect its interest, the Commisslon stressed in *Nuclear Fuel Services, Inc., and New York State Atomic and Space Development Authority* (West Valley Reprocessing Plant), CLI-75-4, NRCI-75/4 273, 275 "that favorable findings on some or even all of the other factors in the rule need not in a given case outweigh the effect of inexcusable tardiness". Accordingly, we conclude that KIMPA's extreme tardiness is inexcusable and that intervention should not be granted.[6]

For the foregoing reasons, the Board denies the Motion for Leave to File Untimely Petition to Intervene and Request for Hearing on the Antitrust Aspects of the Application.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

Dr. J. Venn Leeds, Member

Joseph F. Tubridy, Member

Sheldon J. Wolfe, Chairman

Dated in Bethesda, Maryland
this 15th day of June, 1976.

[6] KIMPA's effort to intervene in the construction permit proceeding on November 28, 1975 did not toll the running of the delay period, and, in any event, was inexcusably belated.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-26

ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Chairman
Marvin M. Mann
Ernest O. Salo

In the Matter of

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, et al

(Seabrook Station, Units 1 and 2)

Docket Nos. 50-443
50-444

June 29, 1976

Upon application for construction permits for Seabrook Station, Units 1 and 2, the Licensing Board issues its initial decision, making findings of fact and conclusions of law and authorizing the issuance of construction permits for both units, subject to several conditions.

TECHNICAL ISSUES DISCUSSED: Organization and management; seismic design criteria; evacuation plan; condenser cooling system effects; need for power; impact of plant upon tourism; and consideration of alternatives.

# INITIAL DECISION
## (Construction Permit)

### APPEARANCES

**Eleanor D. Acheson**, Esq., **Thomas G. Dignan, Jr.**, Esq., and **John A Ritsher**, Esq., for the Applicants.

**Robert A. Backus**, Esq., for Intervenors Seacoast Anti-Pollution League, The Audubon Society of New Hampshire, and Society for the Protection of New Hampshire Forests.

**Anthony Z. Roisman**, Esq., **David S. Fleischaker**, Esq., **Karin P. Sheldon**, Esq., and **Stuart Bluestone**, Esq., for Intervenor New England Coalition on Nuclear Pollution.

**Ms. Elizabeth H. Weinhold**, *pro se.*

**Norman C. Ross**, Esq., for Intervenor Donald B. Ross.

**Donald W. Stever, Jr.**, Assistant Attorney General, for the State of New Hampshire.

**Ellyn R. Weiss**, Deputy Assistant Attorney General, for the State of Massachusetts.

**Frederic S. Gray, Esq., Thomas M. Bruen, Esq.**, and **Michael W. Grainey, Esq.**, for the U.S. Nuclear Regulatory Commission.

## I. INTRODUCTION AND AUTHORITY

This Initial Decision involves an application filed by a group of electric utilities located in New England (Applicants) with the former United States Atomic Energy Commission - now the United States Nuclear Regulatory Commission (NRC or Commission) - for construction permits for a two-unit nuclear power plant designated Seabrook Station, Units 1 and 2 (Seabrook or the facility or the plant) to be located near the seacoast of New Hampshire in the Town of Seabrook.[1]

The application was initially tendered in March of 1973. Following a preliminary review for completeness by the Staff of the Commission (Staff), the application, as initially tendered, was rejected on May 7, 1973, for lack of sufficient information. The Applicants submitted additional information; and on July 9, 1973, the Application was found acceptable for docketing and was docketed pursuant to 10 CFR §2.101.[2]

The application was filed pursuant to the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§2011 *et seq.* In accordance with the requirements of the Atomic Energy Act, the Commission on July 31, 1973, issued a "Notice of Hearing on Application for Construction Permits" (Notice of Hearing) which was published in the *Federal Register* on August 9, 1973, (38 F.R. 21519). In the Notice of Hearing, an Atomic Safety and Licensing Board was appointed by the Commission to conduct the hearing. On October 22, 1975, due to the resignation of the then Chairman of the Atomic Safety and Licensing Board, a

---

[1] *Public Service Co. of N.H., et al.*, Dkt. Nos. 50-443, 50-444, *Notice of Hearing on Application for Construction Permits*, 38 F.R. 21519 (August 9, 1973) (hereafter cited as "Notice of Hearing").

[2] *Public Service Co. of N.H., et al.*, Dkt Nos. 50-443, 50-444, *Notice of Receipt of Application for Construction Permits and Facility Licenses*, 38 F.R. 21522 (August 9, 1973).

new Chairman was appointed pursuant to 10 CFR §2.704,[3] and the Atomic Safety and Licensing Board as reconstituted (hereafter "the Board") completed the taking of evidence.

The Seabrook Facility will be jointly-owned by the following:

| Company | Ownership (%) |
|---|---|
| Public Service Company of New Hampshire | 50.0000 |
| The United Illuminating Company | 20.0000 |
| Central Maine Power Company | 2.5505 |
| Central Vermont Public Service Corporation | 1.7971 |
| The Connecticut Light & Power Company | 11.9776 |
| Fitchburg Gas & Electric Corporation | 0.1716 |
| Green Mountain Power Corporation | 1.1673 |
| Montaup Electric Company | 1.9064 |
| New Bedford Gas & Edison Light Company | 1.3539 |
| New England Power Company | 8.9430 |
| Vermont Electric Power Company, Incorporated | 0.1326 |

(Applicants' Testimony, post Tr. 1177, pp. 3-7). The above-listed companies are all parties to an Agreement for Joint Ownership, Construction, and Operation of New Hampshire Nuclear Units, dated as of May 1, 1973, which sets out the relative rights and obligations of each of the owners (Applicants' Testimony, post Tr. 1177, pp. 3-4; LA, Amend. 14).

Public Service Company of New Hampshire (PSCO) will design, construct, and operate the Seabrook Facility on behalf of the joint owners (Applicants' Testimony, post Tr. 1177, p. 4).

Two of the above-listed companies, Green Mountain Power Corporation (Green Mountain) and Vermont Electric Power Company, Inc., (VELCO), contemplate the transfer of their participation to one or more of the other participants. Green Mountain has contracted to sell its share to New England Power Company (NEPCO), and the small VELCO share (0.1326%) will either be taken up by another Vermont entity or PSCO. (Applicants' Testimony, post Tr. 1177, pp. 7-8; PSAR, Amend. 36 (Applicants' Ex. 1e), *passim;* SER, Supp. 4, p. 20-2).

[3] *Public Service Co. of N.H., et al.*, Dkt. Nos. 50-443, 50-444, *Notice of Reconstitution of Board* (October 22, 1975).

Each of the firmly-committed Applicants, with the exception of The United Illuminating Company (UI), has agreed to relinquish a portion of its ownership share in order to make ownership shares available to thirteen municipal electrical utilities, each of which has joined as an applicant for the license. These transfers will take place when, as and if one or more of these entities indicate a desire actually to take up their allocations. The total allocation involved is 3.03491% of the facility. (LA, Vol. I, Gen. & Financial Info. Section, pp. 2-4; Tabs 10-20; LA, Amend. 14, Ans. to Ques. 3)

Each of the Applicants is a member of the New England Power Pool (NEPOOL) and a signatory of the New England Power Pool Agreement. NEPOOL provides a vehicle for joint planning and operation of generation owned by New England electric utilities. All major electric generating units in New England are centrally dispatched through its satellites by the operating arm of NEPOOL, known as the New England Power Exchange (NEPEX). In addition, NEPOOL's planning arm, known as NEPLAN, does load and capacity studies for the New England region and further does planning on a regional basis with respect to the location of facilities. (Applicants' Exs. 5, 6; Applicants' Testimony, post Tr. 10162, pp. 7-8)

Prehearing conferences were held in this proceeding on October 29, 1973 (Tr. 1-92), March 11, 1974 (Tr. 93-332), May 23-24, 1974 (Tr. 333-633), December 12, 1974 (Tr. 634-748), and April 16, 1975 (Tr. 749-971).

As a result of these prehearing conferences, the Board permitted intervention by Elizabeth H. Weinhold (Weinhold), the Audubon Society of New Hampshire (Audubon), The Society for Protection of New Hampshire Forests (Forests), New England Coalition on Nuclear Pollution (NECNP), Seacoast Anti-Pollution League (SAPL), the Attorney General of, and the State as represented by the Attorney General, of New Hampshire (State or Attorney General), and Donald B. Ross (Ross), all pursuant to 10 CFR §2.714(a). In addition, the Commonwealth of Massachusetts (Commonwealth) was granted leave to participate as an interested state pursuant to 10 CFR §2.715(c).[4]

In its Third Prehearing Conference Order, the Board admitted a number of issues into controversy;[5] those within the ambit of the Atomic Energy Act may be generally categorized as follows:

Financial Qualifications
Technical Qualifications
Seismic Design

---

[4] *Public Service Co. of N.H., et al.*, Dkt. Nos. 50-443, 50-444, *First Prehearing Conference Order*, November 20, 1973. See also *Second Prehearing Conference Order*, March 15, 1974.

[5] *Public Service Co. of N.H., et al.*, Dkt. Nos. 50-443, 50-444, *Third Prehearing Conference Order*, June 18, 1974 (hereafter cited as "Third Prehearing Conference Order").

Radiation Monitoring
As Low as Practicable
Ultimate Heat Sink
Research and Development
Compliance of the ECCS with the Regulations

Those within the ambit of the National Environmental Policy Act of 1969, 42 U.S.C. §§4321 *et seq.*, may be categorized as follows:

Consideration of alternative sites
Need for power
Alternative energy sources
Aquatic effects of the condenser cooling system
Location of transmission lines
Reliability of operation
Impact on tourism
Consideration of effects of turbidity and water runoff during construction
Consideration of effects on wildfowl
Effects of decommissioning
Consideration of aesthetic effects
Archaeology of the site
Effect on access to public lands
Effect on fishing industry
Effect on clam flats
Cost-Benefit analysis

In addition, by a separate Memorandum and Order, the Board admitted into controversy issues with respect to the need for, and feasibility of, evacuation of a beach area located near the site.[6]

In addition to rendering a decision on the above-identified issues, the Board has the responsibility in this Initial Decision to decide the radiological health and safety issues and the environmental issues specified in the Notice of Hearing. The authorities which govern the Board in conducting this proceeding are the Atomic Energy Act of 1954, as amended, 42 U.S.C. §2011 *et seq.*, the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 *et seq.*, and 10 CFR 2, 20, 50, 51, and 100.

Evidentiary hearing sessions on health and safety issues were held on May 27-30, June 3-6, 12-13, 17-20, 23-24, June 30-July 3, 1975. Evidentiary hearing sessions on NEPA issues were held on August 26-29, September 3-5, 9-12, 17-19, 24-26, October 7-8, 10, 14-17, 20-24, 27-31, November 4-7, 18, 1975. All sessions of the health and safety hearing, except that of June 23-24, 1975, were

[6] *Public Service Co. of N.H., et al.*, Dkt. Nos. 50-443, 50-444, ASLB Mem. & Order, July 19, 1974.

held in Nashua, New Hampshire. The June 23-24, 1975, session was held in Seabrook, New Hampshire. (Tr. 970A-4957) With respect to the NEPA portion of the hearings, the first week of hearing sessions were held in New Castle, New Hampshire (Tr. 4958-5708). Thereafter, the hearings were continued in Nashua (Tr. 5709-7107) and in various places in Hampton, New Hampshire (Tr. 7108-11835).

By a stipulation of the parties, which was approved by the Board, the contested issues were tried on an issue-by-issue basis. Direct evidence was adduced on various issues by the Applicants, the Staff, and certain Intervenors. In addition, the Board conducted extensive examination of witnesses.

On February 2, 1976, the Board issued two Orders which respectively granted NECNP's motion to reopen the evidentiary hearing so that NECNP might cross-examine Staff experts on the basis of Staff's conclusions that the Safe Shutdown Earthquake for the Seabrook Site should be designated as an earthquake of Modified Mercalli Intensity VIII, and SAPL and Audubon's motion to reopen the record of the proceedings on the issue of need for power. The reopened hearing was held on February 23-27, 1976, at Hampton, New Hampshire (Tr. 11836-12714).

The Decisional Record in this proceeding is set out in Appendix A to this Initial Decision. The documents received into the record as exhibits will either be cited herein as such or will be referred to by abbreviations of the titles, such as LA, PSAR, SER, ER, FES, etc. The transcript will be cited as "Tr."

To fulfill its responsibilities, the Board will make findings of fact and will set out appropriate conclusions of law relative to all contested issues and to the health and safety issues and environmental issues specified in the Notice of Hearing. Also included in the Initial Decision will be a Supporting Opinion to elaborate as needed upon the rationale for certain of the findings and rulings. Finally, the Board will set out herein its determinations of the ultimate issues, together with any conditions necessary for the protection of the environment and an Order as to the issuance of the construction permits.

## II. FINDINGS OF FACT

### Atomic Energy Act - General Issues

### A. Description and Safety Evaluation of the Facility

1. The proposed site is located inland of the western shore of Hampton Harbor in Rockingham County, in the Town of Seabrook, New Hampshire. It is approximately twelve miles south of Portsmouth, New Hampshire, and two miles west of the Atlantic Ocean. It is approximately eight miles southeast of the county seat of Exeter, New Hampshire, and five miles northeast of Amesbury, Massachusetts. The center of the Boston Metropolitan Area is approximately

forty miles to the southwest of the site. The site coordinates are 70°15'05" W., 42°53'53" N.; the Universal Transverse Mercator co-ordinates are 348,970 E., 4,751,090 N. (PSAR, §1.2.1.1)

The site encompasses two 3,000-foot radius circles, the centers of which are 500 feet apart coincident with the center of each unit's containment. The two units will be arranged using a "slide-along" concept which results in Unit 2 being arranged similarly to Unit 1, but moved or "slid" 500 feet west. All structures that are common to both units (circulating water intake and discharge structures, service water pumphouse, administration and service building, cooling tower and waste processing building) will be completed prior to operation of Unit 1. (PSAR, §§1.2.1.2, 1.2.2.1)

2. Each unit utilizes a Westinghouse four-loop pressurized water reactor which will be initially operated at core power levels up to and including 3,411 MW(t), corresponding to a nuclear steam supply system thermal output of 3,425 MW(t) and a net electrical output of 1,194 MW(e). The units are similar in design to Duke Power Company's W. B. McGuire Nuclear Station and TVA's Watts Bar Nuclear Power Plant, both of which have been previously approved by the Commission. (PSAR, §§1.1.1, 1.3; RESAR, §1.3; SER, §1.3, p. 1-7)

3. The reactors will be fueled by slightly enriched uranium-dioxide pellets enclosed in Zircaloy-4 tubes with welded end plugs. The core will be a three-region cycled core, i.e., three different fuel enrichments will be utilized. The initial core will contain 193 fuel assemblies with a 17 x 17 array. A total of 264 positions in the array will be occupied by fuel rods; the center position is reserved for in-core instrumentation; and the remaining 24 positions are equipped with guide thimbles which, depending upon the position of the assembly in the core, will be used as core locations for control rod cluster assemblies, neutron source assemblies, or burnable poison rods. Unused guide thimble positions will be fitted with plugging devices to limit bypass flow. (PSAR, §1.2.3.2; RESAR, pp. 4.1-1, 4.1-2)

4. Each reactor will have a double containment. The primary containment completely encloses the reactor coolant (or primary) system and is a vertical right cylindrical reinforced concrete structure with a dome and a flat base. It will have an inside diameter of 140 feet and an inside height of 218 feet, with a net free volume of 2,715,000 cubic feet. The vertical walls will be 4'6" thick, and the dome will be 3'6" thick; both the walls and dome will be lined with carbon steel plates. The foundations will be 9 feet thick. The primary containment is designed for an internal pressure of 50.7 psig and a coincident temperature of 296° F; the design pressure provides adequate margin over the 46.1 psig calculated for the most severe of the postulated (design basis) accidents, i.e., double-ended pipe rupture at the inlet to a primary coolant pump. (PSAR, §1.2.2.2, §3.1.1.12; SER, §6.2.1)

5. The secondary containment will surround the primary containment and,

like the primary containment, is a vertical right cylindrical reinforced concrete structure. It will be 159 feet in diameter with a dome. The vertical walls and dome will be 1'3" thick. This secondary containment is designed to permit entrapment and filtration prior to discharge of any leakage from the primary containment. To assist in accomplishing this, the area between the primary and secondary containments, as well as the penetration and safeguards pump areas, are maintained at a slightly negative pressure following a loss of coolant accident (LOCA) by fans which take suction from the secondary containment and exhaust to the atmosphere through charcoal filters. All joints and penetrations will be welded or gasketed to mitigate leakage which would militate against maintenance of the negative pressure. (PSAR, §1.2.2.3)

6. The facility will have a number of engineered safety features for limiting the consequences of accidents. These include the secondary containment exhaust system described above, the containment spray system for heat removal, containment air purification and cleanup systems, a containment isolation system, an emergency core cooling system (ECCS) including a residual heat removal system, a control room habitability system, a primary component cooling water system, a service water system and an ultimate heat sink, and auxiliary feedwater system. (PSAR, §1.2.4; PSAR, Amend. 34)

7. Each unit will be equipped with two air-start emergency diesel generators rated at 6,400 KW, each of which has sufficient capacity to meet the demands of the engineered safety features caused by loss of offsite power with or without a coincident LOCA. Each generator is designed to accept full load 10 seconds after start. (PSAR, §8.3.1.1.e; Tr. 4304, 4388)

8. The PSAR was submitted in June of 1973 as part of the application. Thereafter, a total of 38 amendments were added.[7] During the hearing, Amendment 34 was submitted under date of July 25, 1975, and was received in evidence (Applicants' Ex. 1b) on August 29, 1975, (Tr. 5560); Amendment No. 35 was submitted under date of October 8, 1975, and received in evidence (Applicants' Ex. 1c) on October 10, 1975, (Tr. 8769); Amendment No. 36 was submitted under date of October 22, 1975, and received in evidence (Applicants' Ex. 1e) on October 30, 1975, (Tr. 10832). Amendments Nos. 37 and 38 were submitted under dates of November 7, 1975, and November 12, 1975, respectively, and were received in evidence (Applicants' Exs. 1f, 1g) on November 18, 1975, (Tr. 11662). The PSAR contains a description and safety assessment of the site and of the design of the facility, a description of the quality assurance program to be applied to the design, fabrication, construction, and testing of the facility, a preliminary plan for the Applicants' organization,

[7] The PSAR, and amendments, were admitted into evidence at the evidentiary hearing as a portion of Applicants' Ex. 1.

training of personnel and conduct of operations, a statement of the Applicants' technical qualifications and other pertinent information. (PSAR, *passim*)

9. The Staff has performed a technical review and evaluation of the information and data submitted by the Applicants in the LA and PSAR and subsequent amendments. As a result of this review and its own independent analysis, the Staff prepared a SER which was issued August 14, 1974. Also the Staff has prepared Supplements 1, 2, 3, and 4 to the SER which were issued August 20, 1974, October 8, 1974, March 14, 1975, and November 14, 1975, respectively. In the SER, as supplemented, the following topics are analyzed and evaluated: distribution of population and use of land offsite and the physical characteristics of the site including seismology, geology, hydrology, and meteorology; the design, fabrication, construction, testing, and expected performance of the plant structures, systems and components important to safety; the response of the facility to various anticipated operating transients and to a broad spectrum of postulated accidents including design basis accidents; Applicants' plans for the conduct of plant operations, the organizational structure, the technical qualifications of operating and technical support personnel, the measures taken for industrial security and the planning for actions to be taken in the event of an accident that might affect the general public; the design of the several systems provided for control of radioactive effluents from the plant; and the financial and technical qualifications of the Applicants to design and construct the facility. (SER, *passim*, SER, Supp. Nos. 1-4, *passim*)

10. The Board has independently considered the LA, as amended, the PSAR, as amended, and the SER, as supplemented. The Board finds that the Staff's technical review and safety evaluation are adequate and comprehensive. Accordingly, the Board hereby incorporated by reference the conclusions reached by the Staff in the SER and Supplements 1-4 thereto, except insofar as they may be modified by the findings and rulings made by the Board in this Initial Decision.

11. The application has been reviewed by the ACRS which concluded that there is reasonable assurance that the facility can be constructed and operated without undue risk to the health and safety of the public (SER, Supp. 3; Appendix G).

## B. Quality Assurance

12. Applicants have formulated a comprehensive quality assurance program. The program delineates the quality assurance responsibilities of each organization involved in the project as well as the interaction and surveillance activities between organizations. A quality assurance group has been established to audit the activities of PSCO's contractors both onsite and in vendors' shops. The program has been implemented and is functioning satisfactorily. (Tr. 4096-98,

4177, 4195-99; Applicants' Ex. 2) The Board finds that Applicants' quality-assurance program complies with the requirements of Appendix B to 10 CFR 50.

**C. Common Defense and Security**

13. The activities proposed to be conducted under the construction permit will be within the jurisdiction of the United States. All directors and principal officers of all Applicants are United States citizens. None of the Applicants is owned, controlled, or dominated by an alien, foreign corporation, or a foreign government. (LA, Vol. I) The Applicants have agreed to safeguard any Restricted Data and not to permit access to such data without a prior determination by NRC that permitting such access would not endanger the common defense and security (LA, Vol. I). Special nuclear material for use in the proposed facility will be subject to Commission Regulations and will be obtained from sources of supply available for civilian purposes so that there will be no diversion of such material from military purposes.

14. The Board finds that the issuance of the construction permits for Seabrook will not be inimical to the common defense and security.

**Atomic Energy Act - Contested Issues**

**A. Technical Qualifications**

Intervenor NECNP contends that Applicants are not technically qualified to design and construct the proposed facility (Third Prehearing Conference Order, ¶44).

15. Under the Joint Ownership Agreement in effect among the Applicants, PSCO is empowered to act in all matters for the other participants. Ultimate responsibility rests with the President of PSCO; responsibility for the design and and construction of the Seabrook Station is delegated to the Executive Vice-President, PSCO.

16. PSCO has contracted for and assigned certain responsibilities to the Nuclear Services Division of the Yankee Atomic Electric Company (YAEC). These responsibilities include project administration, fuel cycle management, plant security, overall control of the facility design, construction coordination, quality assurance, and facility licensing. In addition the YAEC Nuclear Services Division will provide technical support for execution of pre-operational testing, core loading, physics and power testing, and for plant operation. The Nuclear Services Division is the engineering and operations organization of YAEC and has provided support for other nuclear facilities, specifically, the Yankee-Rowe, Connecticut Yankee, Vermont Yankee, and Maine Yankee plants. (PSAR 13.1; Applicants' Testimony, post Tr. 4072)

17. Applicants have retained United Engineers and Constructors, Inc. (UE&C) to perform architectural engineering and construction management services. The Westinghouse Electric Corporation has been contracted to design, manufacture, and deliver the nuclear steam supply system. Both UE&C and Westinghouse have extensive background and experience in nuclear technology. (Applicants' Testimony, post Tr. 4072, pp. 28-40)

18. PSCO has only a modest corporate base in direct support of its nuclear construction program and relies heavily on its contractors and consultants for multi-discipline technical support in the design and construction effort. PSCO plans to add to its corporate technical staff persons experienced in nuclear engineering and fuel management. (Tr. 4127-28) Appropriate training programs for PSCO personnel and additional on-the-job training will be provided at existing reactors, on the site, and during pre-operational testing (SER, §13.2; PSAR, §13.2).

19. Based on the collective experiences of PSCO and its principal contractors, YAEC, UE&C, and Westinghouse, on PSCO's current organization and personnel, and on PSCO's quality assurance program, the Board finds that Applicants are technically qualified to design and construct the Seabrook Facility.[8]

**B. Financial Qualifications**

Intervenors NECNP and Ross contend that Applicants are not financially qualified to construct the Facility (Third Prehearing Conference Order, ¶¶32, 59).

20. The jointly-owned facility is sponsored by eleven Applicant-utility companies who have various degrees of ownership. Two of the companies Green Mountain and VELCO contemplate the transfer of their participation to one or more of the other participants. Green Mountain has contracted to sell its share (1.1673%) to NEPCO and the VELCO share (0.1326%) will either be taken up by another Vermont entity or PSCO (*supra*). The lead company for the construction of the facility is PSCO with an ownership of 50%.

21. The total projected capital requirements for the facility are $1,545,000,000 including a reserve for contingencies. Transmission costs will be an additional $26,830,000, and the first cores are expected to cost $70,000,000 - $80,000,000. (PSAR, Amend. 30; Attach. No. 3)

22. Each of the firmly-committed Applicants submitted a "source of funds" sheet which projects a possible method of raising its share of the necessary construction funds (SER, Supp. 3; Appendix D).[9] As indicated in these sheets

[8] See Supporting Opinion for additional comments.

[9] Depending on market conditions, actual funds may be raised by methods or combinations of methods different than shown on the sheets.

each owner will rely upon a combination of internally generated funds and external funds in the form of debt securities. The proportions vary for each owner depending upon its particular circumstance.

23. After review, Staff concluded that each of the nine firmly-committed Applicants is financially qualified (SER, Supp. 4, p. 20-2).

24. To show the effect of varying certain assumptions, Applicants introduced a recasted "source of funds" sheet for PSCO which assumed sale of common stock at 80% of book value (as opposed to book value in the original sheet) and a 12% cost for debt and preferred stock (as opposed to 8% in the original sheet) (Applicants' Ex. 3; Tr. 1681-2). The changes in the two assumptions as to cost of debt and preferred stock and as to sale price of new equity issues would require some increase in income, and therefore rates.

25. The financing scheme outlined in the original "source of funds" sheet would require annual compound rate increases of about 3.95%; under the recasted "source of funds" annual compound rate increases of about 5.15% would be required, provided that the growth in kwh sales assumed are realized (Tr. 1588). In any event, a vital factor affecting the ability of Applicants' to finance the facility is the control of state regulatory bodies over the setting of rates to be charged for electricity.

26. In a decision in December 1974, the New Hampshire Public Utilities Commission (NHPUC) granted PSCO a 15% rate of return on equity, an increase over that allowed previously (Applicants' Ex. 4). In that decision the NHPUC noted, *inter alia*, that PSCO must rely on outside financing, and the "actuality that the reward held out to a *propsective* investor must be sufficient to induce him to place his money in the Company's stock." (Applicants' Ex. 4; Applicants' Testimony, post Tr. 1177, p. 6)

27. The interest coverage ratio of PSCO on December 31, 1973, under the SEC definition was 2.14 and on December 31, 1974, was 1.93. The rate increase went into effect on January 1, 1975. For the twelve months ending April 30, 1975, the interest coverage was 2.16 (Tr. 1698-9). Because of this upturn of PSCO's interest coverage ratio, it is possible that PSCO's interest bearing securities will regain an "A" rating in the future (Tr. 1673-5). Should PSCO's bond rating remain at "Baa," it is noted that over $800,000,000 of Baa electric utility bonds were marketed in the first quarter of 1975 (Tr. 1700, 2428-9).

28. Based on the foregoing, the Board finds that the Applicants have reasonable assurance of obtaining the necessary funds to cover construction costs and related fuel cycle costs and are financially qualified to design and construct Seabrook.

### C. Seismic Design Criteria

Intervenors NECNP and Weinhold contend that the proposed intensity for

the Safe Shutdown Earthquake (SSE) and the proposed design basis ground accelerations for the SSE and the Operating Basis Earthquake (OBE) are too low, and specifically that the plant should be designed to withstand 0.35g acceleration (Third Prehearing Conference Order, June 18, 1974, ¶¶1, 54).

29. The Seabrook site is in the central portion of the Seaboard Lowland Section of the New England physiographic province. The Seaboard Lowland is about 40 miles wide, extending from the New England upland on the northwest to a submerged boundary with the Coastal Plain on the southeast.

30. Seismicity of the New England tectonic province (comprised of the upland and lowland) is characterized by the infrequent occurrence of low to moderate intensity earthquakes (SER, §2.5.1, §2.5.3). There appears to be a tendency for the clustering of earthquake activity in a northwest-southeast trending belt extending from the Canadian Shield through Montreal and Boston and out to sea. Within this trend, there have occurred historical earthquakes of intensity VIII, on the Modified Mercalli scale. Geological and geophysical evidence indicate the existence of a structural basis for this epicentral trend. It appears that the trend, which is termed the "Boston-Ottawa seismic belt," is sub-parallel to and partly within the Ottawa-Bonnechere graben and that the Monteregian Hills and the White Mountain intrusives are within this belt. (Ser, §§§2.5.1, 2.5.2, 2.5.3.1) The belt transverses the Appalachian Mountain ranges, and both the Monteregian Hills and the White Mountain intrusives appear to be the result of tectonism that occurred rather later than that which formed the Appalachian ranges (Tr. 11923, 11953-54).

31. The distribution of earthquake epicenters in the Boston-Ottawa belt is not continuous, but appears to be separated primarily in two regions. The northern region extends from upstate New York approximately to James Bay in Canada, and the southern or southeastern region is in New Hampshire and Massachusetts. (Tr. 11888-89) Between the two regions is the Green Mountains area which appears to have exhibited little or no earthquake activity. In this area, characterized as the Green Mountain anticlinorium, there exists a gravity anomaly which appears to confirm a major structural difference between it and the intrusives mentioned above. (Tr. 11889, 12009-10)

32. Upon consideration of seismic activity in the "Boston-Ottawa belt" and of the White Mountain intrusives and the Monteregian Hills, it appears that a correlation exists between these geologic structures (zones) and the earthquakes in the northwest and southeast regions of the New England tectonic province (Tr. 11913-15). It further appears that the northwest region of seismic activity extending from upper New York state to James Bay, is separated from the southeast region covering New Hampshire, northeastern Massachusetts, and an indeterminate region east-southeast of the coastline, by the Green Mountain anticlinorium. It would then seem appropriate that the Safe Shutdown Earthquake for the Seabrook site should be determined by consideration of the

seismicity and geology of the southeast portion of the "Boston-Ottawa seismic belt," *i.e.*, that of New Hampshire, Massachusetts, and the nearby coastal region.

33. In view of the factors set out in paragraphs 29 through 32 above, the Board finds that the seismic design criteria for the Seabrook site should be determined by the seismology and geology of the southeast region of the New England province and of the vicinity of the site.

34. There are no known or inferred tectonic faults displacing Quaternary Glacial deposits or post-glacial and recent sediments within about 200 miles of the site (PSAR, §2.5-5). Those historical earthquakes which have affected the site with significant intensities appear to have occurred within about 80 km, and it does not now appear possible to relate those earthquakes with specific known tectonic structures (SER, Supp. 2, p. C-6; Tr. 11917-19).

35. In the vicinity of the site, two potentially significant tectonic features have been investigated. First, the "Scotland Road fault" is considered to be an extension of the Clinton Newbury fault, the whole running northeasterly from near Worcester, Massachusetts, about 60 miles to the sea off Plum Island, Massachusetts. Its nearest approach to the site is about 7 miles to the south. (SER, §2.5.2) Radiometric dating of deformed rock in the fault zone, and of diabase dike intrusions which are not deformed, indicate that no movement has occurred for about 200 million years (Staff Testimony, post Tr. 2811; Applicants' Testimony, post Tr. 3221, p. 10; Tr. 3330, 3943). Second, the "Portsmouth fault" was inferred by Novotny in 1963. Applicants' investigation of this inferred structure has revealed no evidence of its existence (PSAR, §2.5.6; SER, Supp. 2, p. C-3; SER, § 2.5.2).

36. Based on the foregoing, the Board finds that there are no capable faults in the vicinity of the site.

37. Of the historical earthquakes that have occurred in the southeastern section of the New England tectonic province, the most severe were those of 1727 and 1755. Their epicenters both appear to have been in the vicinity of Cape Ann, Massachusetts, the 1755 earthquake apparently having occurred somewhat further off the coast. These events have been classified as intensity VIII as measured by the Modified Mercalli scale. There appears to be general agreement that the 1755 earthquake was felt from the Chesapeake Bay in Maryland to Halifax, Nova Scotia, a distance of about 750 miles, and is considered to have been the largest historical earthquake in the New England region. (Staff Testimony, post Tr. 2812, pp. 2-3)

38. In view of the foregoing considerations, and as developed on the record, the Board finds that the maximum earthquake reasonably to be expected in the southeastern portion of the "Boston-Ottawa seismic belt" is a Modified Mercalli intensity VIII, and can result in that intensity at the Seabrook site.

39. Various measures of the relationship between ground motion and MM intensity have been attempted (Newmark Testimony, post Tr. 2813, pp. 4-5; Tr.

3051-60). Various workers in the field have estimated the mean value of horizontal ground acceleration associated with an earthquake of intensity VIII. The available data are rather widely scattered and the values of the mean range from about 0.18g to about 0.27g. The Staff and its consultants propose that an acceleration of 0.25g is an adequate value for intensity VIII and that it should be used for the Seabrook site. (SER, §2.5.3.2; SER, Supp. 2, p. C-6; Tr. 3058-62) The Board finds that an acceleration of 0.25g is adequate as the zero period acceleration to be used as the seismic design criterion for the Seabrook site.[10]

**D. Evacuation Plans and Site Suitability**

**(a) The Evacuation Issue**

Intervenors NECNP, Weinhold, and State of New Hampshire contend (1) that, considering the location and operation of the Seabrook Facility, the Applicants should formulate, as part of its emergency plans under 10 CFR 50, Appendix E, an evacuation plan for Hampton Beach; (2) that, if an evacuation plan is needed, consideration by the Applicants of evacuation of Hampton Beach has not been adequate to meet the requirements of Appendix E at the construction permit stage (Memorandum and Order July 19, 1974). In addition, a related issue was raised concerning whether the population center distance (PCD) and low population zone (LPZ) have been properly chosen (Tr. 766-69).

40. The site for the Seabrook Facility is a 750-acre tract of land in the town of Seabrook, New Hampshire. It is located on the edge of a several-thousand acre saltwater marsh which is part of the Hampton Harbour estuary, and lies about 2 miles inland from the Atlantic coastline. The nearest occupied structure is about 3,100 feet from the containment, and the population (1970) within 1 mile is about 473, within 2 miles is 3,183, and within 3 miles is 7,290, and within 5 miles is 21,351. The projected population figures for 1980, for the same distances are 728; 4,648; 10,526; and 28,897. (SER §2.1; PSAR §2.1) The foregoing population figures represent the towns of Hampton, Hampton Falls, Seabrook, Salisbury, Massachusetts, and portions of South Hampton, New Hampshire, and Amesbury, Massachusetts.

41. The Hampton-Seabrook beach area is of relatively low permanent population, but draws large numbers of summer visitors, comprised of daily, overnight, and longer-term visitors. It is estimated that on a summer holiday (July 4 or Labor Day) in 1980 the total population within 5 miles of the site will be about 93,000, composed of roughly 29,000 permanent residents, about 42,000 summer (seasonal) residents and overnight visitors, and about 30,000

[10] See Supporting Opinion for further discussion of the seismic issue.

(day) transients. (Applicants' Ex. 7, p. 2-1, Tables 4-1, 4-2, 4-3)[11] The summer residents and the daily transients, except for a small percentage, populate the beach areas lying from northeast to south-southeast of the site.

42. Within the 3-mile radius, in the beach area, there are projected for 1980 on a peak (holiday or weekend) day about 37,000 people. This population is a function of the time of day, that is, the actual peak is expected to occur roughly between noon and 4:00 p.m., and during the evening and early morning hours to diminish to about 22,000. (Tr. 3618-19)

43. Within the 5-mile radius along the coast, about 64,000 population is projected on a peak summer day, diminishing to perhaps 35,000 to 40,000 at night. Such peak populations are expected to occur on less than a dozen days during the summer. (Applicants' Ex. 7, p. 2-1) Available data suggest that the average weekday transient population is about one-third that of a peak Sunday and that average Saturday attendance is about half that of a peak Sunday (Applicants' Ex. 7, p.4-8).

44. The foregoing figures are to be contrasted to the aforementioned projected permanent (year round) population (1980) of about 29,000 within a radius of 5 miles of which about 4,500 reside in the beach area, i.e., NE to SSE (Applicants' Ex. 7, Fig. 4-3).

45. The beach area, within a 5-mile radius extending from Plaice Cove and North Beach to the north to Salisbury Beach to the south, is traversed by Highway 1A, with the nearest connecting roads to the west, from the central area, about 1.5 miles north and south of the bridge over the inlet to Hampton Harbour (Applicants' Ex. 8, Fig. 2). The point of nearest approach to the Seabrook Station on Highway 1A is about 1.75 miles. With the exception of a small number of dwellings to the west of Highway 1A, the beach area population is at a greater distance from the nuclear plant site.

46. Studies have been made of the roadway network in the vicinity of the site, and of the feasibility of evacuation of the population within 5 miles of the site (Applicants' Ex. 8; Staff Testimony, post Tr. 3798). Both studies assume that evacuation takes place on a summer day at a time of peak population. The time required to evacuate persons from the several sectors[12] within the 5-mile zone is estimated to range from about 2 hours for some sectors to the north and west of the site, to 5 to 7 hours for sectors to the east, and 7 to 9 hours south-southeast (Staff Testimony, post Tr. 3798, Table I; Applicants' Ex. 8, Fig. 5). The estimates vary in some degree because of differences in assumptions and in modes of evacuation. Staff estimates are based in substantial part on experi-

[11] About 7,000 persons are estimated to be in the Salisbury Beach area at about 5 1/2-6 miles, so the grand total in the vicinity would be about 100,000.

[12] The term sector as used here is that sector of a circle 5 miles in radius centered on the nuclear reactor facilities and of 22-1/2° width.

ence in actual evacuations that have taken place in the United States. (Staff Testimony, post Tr. 3798, pp. 3-4)

47. Traffic congestion attendant to the evacuation can be handled by New Hampshire law enforcement personnel, although the New Hampshire State Police are of the opinion that the elapsed time to complete evacuation may be somewhat greater than estimated by Applicants and Staff (Tr. 3732-38, 3660).

48. With regard to the possibility that protective action on behalf of the public may be necessary in the event of a severe accident in a nuclear power plant, the Environmental Protection Agency (EPA) recently has developed in draft form a set of Protective Action Guides (PAG's). These draft guides would recommend that protective action, and evacuation in particular, be considered when it appears that members of the public would likely receive a radiation dose in the range of 1 to 5 rem to the whole body, or 5 to 25 rem to the thyroid gland. Other protective measures are now under study, such as the administration of stable (nonradioactive) iodine as a blocking agent to prevent or minimize the uptake of radioactive iodine.[13] (NECNP Ex. 3; Tr. 2721-39)

49. The State of New Hampshire has set PAG's at a level of 2 rem whole body and 10 rem thyroid for consideration of evacuation and 25 rem whole body and 125 rem thyroid for mandatory evacuation (N.H. Ex. 4, p. 2). The Staff holds the position that exposures to the public should not exceed about 10 percent of the guidelines of 10 CFR 100. None of the foregoing dose guidelines are regarded as, or construed to be, acceptable doses, but are to be considered as objectives in the interest of minimizing radiation exposure to the public in case of accident.

50. The consequences of a severe design basis accident, such as a Loss of Coolant Accident, or LOCA, at the Seabrook Station were examined in some detail (Applicants' LOCA Report, post Tr. 3367; Tr. 3365-66, 4220, 4894-99; Staff Tables, post Tr. 4404; Tr. 4598-4687). Various assumptions for values of the important variables which control the ultimate consequences, i.e., radiation doses to individuals, were employed. These ranged from the "conservative" to the "realistic," and with several combinations of the two categories.

51. The radiation doses that are calculated to be incurred by persons in the beach area, in the event of a loss of coolant accident, depend on direction and distance from the site. The Staff calculates that those persons in the vicinity of the Hampton Beach and Highway 1A about 2 miles from the Seabrook Station would be subjected to doses, during the first 8 hours, in the range of about 40 rem to the thyroid gland, and about 4.5 rem to the whole body, to about seven ten-thousandths ($7 \times 10^{-4}$) rem to the thyroid and about two one-thousandths ($2 \times 10^{-3}$) rem to the whole body. These ranges represent the extremes resulting

[13] The Board notes that the United Kingdom already has adopted the use of stable iodine as an emergency measure (Tr. 2733-35).

from the use of "conservative" assumptions and "realistic" assumptions, and factors of about 50,000 and 2,000 for thyroid and whole body doses, respectively. (Staff Tables I and III, post Tr. 4404) Using "realistic" meteorology, with all other assumptions being "conservative," the Staff calculates doses, at 2 miles in the first 8 hours, of about 2 rem to the thyroid and about one-quarter (0.25) rem whole body (Staff Table II).[14]

52. The Applicant, using meteorological data collected over a summer's period and employing otherwise "conservative" assumptions, calculates corresponding "maximum" doses, at a distance of 1.5 miles, in the east-northeast sector[15] of about 9 rem and 2 rem.[16] Using the same meteorological data, the Applicants calculate that for about 95% of the time[17] the doses would be reduced by a factor of about 5 to 8. (Applicants' LOCA Report, Tables 5-1, 5-2, Tr. 4895-99) "Maximum" doses at 24 hours would be about the same as those estimated for the 8-hour period, while those occurring 95% of the time would increase between 8 and 24 hours in NE to SE sectors by about 8% to about 45%.

53. Radiation doses sustained by persons at distances greater than those considered above would be substantially smaller.

54. The "conservative" assumptions noted in paragraph 50 are those employed in nuclear power plant and site evaluation, specifically in determining whether a nuclear power plant design satisfies the dose guidelines of 10 CFR 100. It appears that the assumptions concerning the fission product source term (the quantities of various fission products emanating from the fuel following an accident) and the meteorological characteristics (atmospheric diffusion) in the vicinity of the site are the controlling factors in determining the radiation doses to persons in various directions and distances from the site (Tr. 4635-36). The Staff considers the "conservative" fission product source term to be greater than any source term expected from mechanistic accidents that have been postulated, that is, the "conservative" source term is "possible," but the assumption is non-mechanistic (Tr. 4601, 4605-08).

55. Considering the margins for error in the calculation of consequences of

[14] The Staff's calculations do not take into account the variance of dose with direction.

[15] This sector is the most heavily populated within 3 miles during the summer season. Persons in the East and East-Southeast sectors would receive "maximum" doses as high as 15-18 rem thyroid (at 1.5 miles) and 4-5 rem to the whole body. At 2 miles these doses would be about 10-12 rem thyroid and 2.5 to 3 rem whole body.

[16] At 2 miles these doses would be reduced to about 6 rem and 1.25 rem respectively (Tr. 4682-84). The "maximum" dose is the largest dose resulting from the evaluation of 2,160 accidents which were assumed to occur at each hour during the 3-month summer period, and using hourly meteorological data from June through August of 1972.

[17] This means that meteorological conditions would be such that radiation doses would be less than those calculated for the worst weather conditions observed during the summer.

accidents, and the effects of varying assumptions and data, the Board concludes that the Staff's and Applicants' calculations are in reasonable agreement.[18]

56. The Board concludes (a) that in the event of a design basis accident the radiation doses reasonably to be expected in the beach areas are relatively small, and generally less than those suggested as warranting consideration of protective action under the several suggested Protective Action Guides (PAG); (b) that evacuation of the area within about 5 miles of the Seabrook Station would become advisable, or necessary, only in the event of an accident whose consequences are substantially greater than and less probable than those reasonably to be expected from a design basis accident.

57. Applicants have described a preliminary emergency plan for the Seabrook Station (PSAR, §13.3). The State of New Hampshire has developed a general radiological emergency response plan, which will be supplemented by an addendum for the Seabrook Station. The addendum is presently being developed by the Applicants in concert with State and local officials. (Applicants' Testimony, post Tr. 2495; Tr. 3777; N.H. Ex. 2)

58. The Board finds that the Applicants' preliminary plan for coping with emergencies is sufficient for the construction permit stage. The Board further finds that the necessity for evacuation of the "beach area" in the event of a design basis accident is of very low probability, but that it is prudent and in the public interest that the Applicants cooperate with the State of New Hampshire in developing such plans for emergency (protective) action, as the State may wish to employ in the unlikely event of an accident with consequences greater than those reasonably to be expected from a design basis accident.

**(b) Site Suitability**

59. The Low Population Zone (LPZ) proposed by the Applicants is the area encompassed by a circle of radius 1.5 miles. The LPZ as proposed meets the guideline radiation doses of 10 CFR 100. (SER, Table 15.1-1)

60. The Applicants propose Portsmouth, New Hampshire, as the nearest center of population of 25,000 or more. That city is about 12 miles from the Seabrook Site. Intervenors propose that the "beach area," meaning the "Hampton Beach-Seabrook Beach" area, is a population center because the population on peak days during the summer, including day transients, is in excess of 25,000. Intervenors propose, alternately, that the towns of Hampton, Hampton Falls, and Seabrook, the beach area being within the corporate limits of Hampton and Seabrook, should be viewed as being a single population center and that the Seabrook Nuclear Plant is in the population center.

61. In the "beach area," the boundary of the populated area is less than 2

[18] See Supporting Opinion for further discussion of this subject.

miles from the proposed Seabrook Nuclear Station, and, the projected peak population within 3 miles in 1980 is about 37,000 (see paragraph 42). Within 5 miles, in the "beach area," including sectors 3 through 8, the peak population projected is about 63,000, of which about 4,500 are year round residents (Applicants' Ex. 7, Figs. 4-1, 4-2, 4-3). This area includes Salisbury Beach to the south-southeast at 2.5 to 5.0 miles.

62. It is suggested that transient population should be weighted as a function of occupancy time in order to ascertain effective *annual risk* in establishing a population center distance (PCD). Under this approach the summer season of 3 months would be considered to be the basis for an occupancy factor of 25% for summer residents and overnight transients, and 8.33% for daily beach users, that is, 8 hours per day for 3 months per year. (Staff Testimony, post Tr. 4403, pp. 4, 6-8; Tr. 4480-82) The projected weighted population of the beach area within 3 miles is about 10,000, and within 5 miles about 15,000.

63. Considering the weighted population concentrations in the beach area within 5 miles of the site, the Staff concludes, and the Board so finds, that no population centers need be designated within this distance (Staff Testimony, post Tr. 4403, p. 9, Table I, p. 10; Tr. 4492-93).

64. None of the towns of Hampton, Hampton Falls, or Seabrook qualifies as a population center. They lie, along with Salisbury, Massachusetts, and a portion of Amesbury, Massachusetts, with a 5-mile radius of the Seabrook Site. The projected 1980 population in this circle is about 29,000. Salt marshes, strips of land along the beaches, and unpopulated and sparcely-populated areas separate the major "concentrations" of population by distances of one or more miles in both radial and azimuthal directions. (Applicants' Ex. 7, Fig. 3-3; PSAR, Fig. 2.1-8a)

65. The towns of Amesbury, Massachusetts, to the southwest and Salisbury, Massachusetts, to the south are 4 or more miles distant and are not expected to approach or exceed population of 25,000 in the foreseeable future.

66. While the corporate limits of the towns of Hampton, Hampton Falls, and Seabrook, including the "beach area," appear to be contiguous, their populations are distinctly not uniform in density. Hampton population is principally in sector 2, and at 2 to 4 miles from the site, with lesser portions in sectors 1, 3, and 4 distributed along Highways 101E and 101C, with another section on Hampton Beach. Seabrook population is primarily distributed along US 1 in sectors 10 through 13, with an additional portion in beach sectors 6 and 7 within about 2 miles of the site. Hampton Falls population is principally in sectors 14 and 15 along US 1. In both Seabrook and Hampton Falls, some additional population is distributed along a small number of connecting roads (about 5 roads over a span of about 3 miles). (Applicants' Ex. 7, Fig. 3-3; PSAR, Fig. 2.1-8a)

67. Based on the evidence in the record and the considerations in paragraphs 59 to 66, *supra*, the Board finds that the proposed LPZ of radius 1.5 miles is acceptable. The Board further finds that consideration of the combined weighted populations of Hampton, Hampton Falls, and Seabrook as a "population center" is inappropriate, and that the proposed population center distance (PCD) of 12 miles to Portsmouth, New Hampshire, is acceptable.

**E. Radiation Monitoring**

Intervenor State of New Hampshire contends that Applicants offsite radiation monitoring program is inadequate to protect the public health and safety as a result of (1) inadequate redundancy in equipment, (2) inadequate equipment to provide a meaningful monitoring program, and (3) inadequate number and placement of monitoring stations (Third Prehearing Conference Order, June 18, 1974, ¶17).

68. Applicants have described a comprehensive offsite radiation monitoring program. Applicants' program contemplates the utilization of 10 stations to monitor air particulates, 10 stations monitoring airborne iodine, utilization of one high pressure ionization chamber, 25 TLD's, 9 stations monitoring food crop and vegetation, 5 stations monitoring milk, 5 monitoring ground water, 10 monitoring surface water, 10 monitoring precipitation, 7 stations monitoring fish, mollusks, plankton, crustaceans, and algae, 10 stations monitoring bottom sediments, and 19 stations monitoring soil. (Applicants' Testimony, post Tr. 3899, p. 7; PSAR, §11.6)

69. In setting up the stations, the Applicants have chosen two "Zones." Zone I contains locations which are within 5 miles of the station. It is considered that these close-in locations will reflect increases in environmental activity, if any, due to airborne releases. Those stations located outside the 5-mile area are in what Applicants have designated as "Zone II," an area Applicants believe is outside the influence of routine gaseous releases. The simultaneous monitoring in the two Zones will permit statistical comparisons between the media samples. This is designed to mitigate the possibility that data will be improperly affected by increases in background radiation from sources other than the station. (Applicants' Testimony, post Tr. 3899, p. 7)

70. The radiological environmental monitoring program exceeds the monitoring requirements of the recommended minimum level environmental surveillance program around nuclear reactors recommended by EPA (Applicants' Testimony, post Tr. 3899, p. 9).

71. The Board finds that the offsite radiation monitoring program contemplated by the Applicants is sufficient and appropriate.

**F. Ultimate Heat Sink**

Intervenor NECNP contends that Applicants have not given adequate

consideration to safety considerations related to the use of tunnels for the cooling water system of the facility (Third Prehearing Conference Order, ¶47).

72. The ultimate heat sink for the facility is a combination of the Atlantic Ocean and the atmosphere. During normal operation and for any off-standard operation that does not result in the blockage of 95% of the flow in the intake tunnel, the ultimate heat sink will be the Atlantic Ocean, with cooling water being transferred to and from the ocean by means of two tunnels 19 feet in diameter through bedrock and lined with reinforced concrete. (Applicants' Testimony, post Tr. 3896, pp. 5-6)

73. In the event that a seismic event should result in blockage of the tunnels, cooling would be provided by a cooling tower system which operates by isolating the normal service water system and using the tower pumps to pump water from the tower basin through the primary component cooling water heat exchangers and back into the tower. The system actuates automatically upon a low water level signal in the service water pumphouse and can also be actuated manually if necessary. (Applicants' Testimony, post Tr. 3896, p. 7)

74. The cooling tower portion of the system is designed with sufficient capacity to handle the heat load from a LOCA in one unit coincident with normal cool down heat load in the second unit (Applicants' Testimony, post Tr. 3896, p. 5). The cooling tower is in seismic category I, is founded on bedrock and is designed for the design basis tornado wind speed (Applicants' Testimony, post Tr. 3896, p. 9).

75. The Staff has reviewed the design of the ultimate heat sink and has concluded that the design criteria and basis for the ultimate heat sink are acceptable and the Board so finds (SER, §9.2.3, pp. 9-10).

**G. Emergency Core Cooling System**

Intervenor NECNP contends that the emergency core cooling system will not meet the requirements of Criterion 35, 10 CFR 50, Appendix A (Third Prehearing Conference Order, ¶48).

76. Amendment No. 34 to the PSAR (Applicants' Ex. 1b) indicates that an analysis of the Seabrook ECCS has been performed utilizing the March 15, 1975, Westinghouse ECCS evaluation model (PSAR, Amendment 34, Applicants' Ex. 1b, p. 15-4-1A). The March 15, 1975, Westinghouse ECCS evaluation model has been reviewed by the Staff, and it is the Staff's position that this model is in compliance with 10 CFR 50, Appendix K (SER, Supp. 4, pp. 6-3, 6-7).

77. The Board finds that the Seabrook ECCS design is in compliance with 10 CFR §50.46, 10 CFR 50, Appendix K and, therefore, the requirements of 10 CFR 50, Appendix A, Criterion 35, are satisfied.

**H. Conformance with Commission Regulations Governing Releases of Radioactive Effluents**

Intervenors NECNP and the State of New Hampshire assert that radioactive

releases from the facility will not be "as low as practicable" in accordance with the requirements of 10 CFR 20[19] (Third Prehearing Conference Order, June 18, 1974, ¶¶18, 49).

78. The expected quantity of radioactive materials released in liquid effluents from Units 1 and 2 will be less than 5 Ci/yr/reactor, excluding tritium and dissolved gases. The combined liquid effluents released from Units 1 and 2 will not result in an annual dose or dose commitment to the total body or to any organ of an individual, in an unrestricted area from all pathways of exposure, in excess of 5 mrem. (Staff Testimony, post Tr. 11673, p. 3)

79. The total quantity of radioactive materials released in gaseous effluents from Units 1 and 2 will not result in an annual gamma air dose in excess of 10 mrads and a beta air dose in excess of 20 mrads at any location near ground level, at or beyond the site boundary, which could be occupied by individuals. The annual total quantity of iodine-131 released in gaseous effluents will be less than 1 Ci/reactor and the total quantity of radioiodine and radioactive particulates released in gaseous effluents from Units 1 and 2 will not result in an annual dose or dose commitment to any organ of an individual in an unrestricted area from all pathways of exposure in excess of 15 mrem. (Staff Testimony, post Tr. 11673, pp. 3-4)

80. The Board finds that the doses associated with the normal operation of Seabrook Station, Units 1 and 2, meet the design objectives of Sections II.A, II.B, and II.C of Appendix I to 10 CFR 50.

81. On October 8, 1975, the Applicants, in response to a Staff request for information, indicated that they would follow the option provided in the September 4, 1975, amendment to Appendix I and dispense with the cost-benefit analysis requirements of Paragraph II.D of that Regulation (Applicants' Ex. 1d; ER, Supp.).

82. The expected quantity of radioactive materials released in liquid and gaseous effluents and the resultant doses meet the design objectives set forth in the Staff's RM-50-2 guidelines, and the Board finds that the Applicants' proposed design of Units 1 and 2 satisfies the criteria specified in the option provided by the Commission's September 4, 1975, amendment to Appendix I and, therefore, meets the requirements of Section II.D of Appendix I to 10 CFR 50.

**I. Research and Development**

Intervenor NECNP contends that Applicants have not complied with 10

[19] Subsequent to admission of this contention by the Board, the Commission promulgated Appendix I to 10 CFR 50, 40 *Federal Register* 19439, May 5, 1975. On September 4, 1975, an amendment to Appendix I was promulgated, providing the option to dispense with the cost-benefit analysis required by ¶ II.D of Appendix I (40 *Federal Register* 40816).

CFR 50.34(a)(8) in that the Applicants are not pursuing required research and development programs (Third Prehearing Conference Order, ¶63).

83. The Applicants have described a number of verification tests which are being carried out for the purpose of obtaining technical and design information (SER, Table 1.7-1). Such information is not research and development as defined 10 CFR 50.2(n), 10 CFR 50.35(a)(2). The Staff concludes that there are no safety features or components which require research and development as defined, and the Board so finds.

## NEPA Considerations

### A. General

84. Applicants submitted on June 12, 1973, an Environmental Report (ER) pursuant to Appendix D of 10 CFR 50,[20] and subsequently added supplements thereto.[21] The ER and its supplements contain detailed information on the environmental impact of the construction and operation of the facility, in addition to giving the Applicants' evaluation of the environmental impact of construction and operation.

85. Based on the environmental information submitted by the Applicants in the ER and its supplements, and on its own independent review and analysis, the Staff prepared a Draft Environmental Statement which was issued in April 1974. Copies of this Draft Environmental Statement, with requests for comments, were made available to appropriate Federal, State, and local agencies and organizations. (FES, p. iii) A notice of availability, with requests for comments from the public was published in the *Federal Register* on April 26, 1974, (39 F.R. 14749, 14750). Sixteen Federal, State, and local agencies and other interested parties commented on the Draft Environmental Statement (DES) as did the Applicants (FES, p. iv). The Staff then prepared a Final Environmental Statement (FES), which in December 1974 was issued and made available to the public, to the Council on Environmental Quality and to the aforementioned organizations and agencies.[22] The comments from the aforementioned agencies and interested parties were considered in the FES, and an evaluation of these comments is included therein (FES, §11).

---

[20] Appendix D was superseded on August 19, 1974, by 10 CFR 51, the Commission's current Regulations implementing NEPA.

[21] This Environmental Report was admitted into evidence at the evidentiary hearing as a portion of Applicants' Ex. 1. Supplements to the ER were admitted as Applicants' Exs. 1a and 1d.

[22] The FES was admitted into evidence and incorporated into the record following Tr. 5817.

86. The FES covers in detail the environmental impact of both the construction and operation of the Seabrook Station. It contains a detailed description of the site and the plant, with a discussion of the environmental effects of site preparation and plant and transmission line construction. In addition, the FES covers the environmental impact of plant operation, discusses the environmental monitoring program and assesses the environmental effects of postulated accidents. It also considers in detail the implications of the proposed project, including the need for power, the adverse environmental effects which cannot be avoided, the relationship between short-term use of the environment and maintenance and enhancement of long-term productivity, and the irreversible and irretrievable commitment of resources. Further, the FES discusses alternatives to the proposed action, with assessments of alternate energy sources, alternate sites and plant design alternatives. It also presents a cost-benefit analysis of the project. The FES contains a summary of its assessments and concludes that, after weighing the environmental, economical, technical, and other benefits of construction and operation of the facility, against environmental and other costs, and considering available alternatives, the action called for under NEPA and Appendix D[23] to 10 CFR 50 is the issuance of a construction permit for the facility, subject to certain conditions for the protection of the environment.

87. The Board finds that the Staff's FES is a comprehensive review and evaluation of the environmental impact of the construction and operation of the facility, except insofar as the assessments and evaluations in the FES are modified by the findings and conclusions reached in this Initial Decision. Further, the FES, as modified herein, sets forth an adequate evaluation of the various alternatives to the proposed action.

88. Further, the Board has independently considered the environmental impact of the proposed action and the Board hereby agrees with, incorporates by reference and adopts the Staff's evaluations in the FES, except with regard to areas where the Staff evaluation is in conflict with the Board's resolution of the issues in controversy as set out in this Initial Decision or where the Staff evaluation is in conflict with the findings herein relating to the issues specified in the Commission's Notice of Hearing.

## Contested NEPA Issues

### A. Tourism

Intervenors Weinhold and SAPL contend that the facility will have an adverse impact on the tourism industry in the Hampton-Seabrook Beach area (Third Prehearing Conference Order, ¶¶3, 43).

[23] Now 10 CFR 51.

89. Applicants have made a survey in other tourist areas where nuclear plants have been operating for some time (Applicants' Testimony, post Tr. 5901; Applicants' Ex. 12). Six plants were chosen on the basis that they represent nuclear plants which are located at or near beach areas which are utilized by tourists (Tr. 6102). There are some differences between the Hampton-Seabrook area and the areas with respect to which the survey was made (Tr. 5957-73), particularly in the sense that none of these areas seem to experience a seasonal influx of the magnitude experienced at Hampton-Seabrook. In addition, only three of the six plants are visible from the actual beach area (Tr. 5933, 5959, 5961-62, 5967). The survey in large part represents the results of interviews with people to whom the taker was directed by local public utility representatives (Tr. 5915). No adverse comment was forthcoming on the effects of plant operation on the tourist business of the areas visited (Tr. 5953, 5974).

90. While none of the areas surveyed is wholly analogous to Seabrook in all respects and the survey cannot be described as done scientifically, it appears to provide some support for the proposition that there have been no gross adverse impacts on tourism in areas where nuclear plants operate. In addition, some of the plants are being boosted by local Chambers of Commerce or motels as tourist attractions (Applicants' Ex. 12, pp. 2, 4, 7, 14).

91. The Staff indicates that it is unaware of any situation where a nuclear facility's construction or operation had adversely affected tourism (Staff Testimony, post Tr. 6058).

92. The Board finds that, while there is no way to determine the exact impact on tourism in Hampton-Seabrook which would result from the plant, there is no basis at this time for finding that Seabrook would have any adverse effect on tourism.

B. Aesthetics

Intervenors State and SAPL contend that Applicants have not given adequate consideration to the possible adverse aesthetic impact of the facility (Third Prehearing Conference Order, ¶¶16, 40).

93. Applicants introduced an artist's rendering of the plant (Applicants' Ex. 9). Applicants have attempted to reduce the visual impact by choices of appropriate materials. The color chosen (a dark shade of gold) was chosen on the assumption that one could not "camouflage" the plant by choosing a tree or sky color, especially with the change of seasons, and, thus, the most attractive color would be a neutral earthy color. (Applicants' Testimony, post Tr. 5773. pp. 4-5; Tr. 5799, 5777, 5804-05)

94. A study was made to ascertain the visual impact the plant would have from a number of locations surrounding the plant. A balloon was tethered at the location and elevation of the Unit 2 reactor containment. Photographs were then

taken from a number of points using precision techniques, and an artist, using the balloon elevation as a guide, added sketches of the plant structure to scale on the photographs to indicate the extent of plant visibility. (Applicants' Testimony, post Tr. 5773, pp. 5-10; Applicants' Exs. 10a-10e, 11)

95. The plant will not be visible from the swimming area of Hampton Beach, nor from the ocean-side portion of the Seabrook Beach (Tr. 5783).

96. Using totally insulated buses and equipment, Applicants have reduced the switchyard to an area roughly 100' x 150' rather than the several acres which normally would be required (Tr. 5778-79).

97. The Board finds that the Applicants have taken account of aesthetic values and have attempted to reduce the visual impact so far as is practicable.

C. Archaeology

Intervenor State contends that the construction activities will render unsalvageable archaeologically and anthropologically significant remains of Indian villages on the site (Third Prehearing Conference Order ¶25).

98. Applicants have committed to preserve certain areas of concern not located within the immediate construction area and to preserve for a reasonable time and pay for the excavation of those portions of another site as shall be designated by a qualified consultant (Tr. 5852).

99. The Board finds that archeological values on the site will be salvaged or preserved in a reasonable manner.

D. Wildfowl

Intervenor Audubon contends that Applicants have given inadequate consideration to the effects of construction and operation of the facility on the Hampton-Seabrook estuary as an important nesting, feeding, migratory stop, and wintering area for birds (Third Prehearing Conference Order, ¶9).

100. It appears that noise from construction may displace and disturb some birds, but that these should return when construction ceased. Noise levels from operation will likely discourage the presence of birds which cannot habituate to noise levels of 70 dBA, but this should not result in the loss of many species or large numbers of birds. (Applicants' Testimony, post Tr. 6119, pp. 9-10)

101. Applicants conducted an air and foot survey for heron and egret rookeries throughout the exclusion area. Applicants found no nests but do not rule out the possibility that some exist. In addition, Applicants are conducting an ongoing waterfowl census. (Applicants' Testimony, post Tr. 6119, pp. 10-12)

102. Audubon expressed concern as to whether the installation of the barge landing would interfere with piping plovers and common and least terns (Audubon Ex. 1, pp. 3, 4). It appears that piping plovers have not nested in this area since 1972, and terns have not been seen for a decade or more (Tr. 6176).

103. The barge landing will not be built where the piping plover nests were seen, and while construction noise might preclude nesting in the adjacent area, there appears to be no reason to believe nesting would be precluded after construction ceases (Applicants' Ex. 13; Tr. 6149-50).

104. The Board finds that the Applicants have given due consideration to the possible adverse effect of construction and operation upon wildfowl in the area and that no undue adverse effects are likely to result.

**E. Decommissioning**

Intervenor Audubon Society contends that decommissioning of the facility will have a long-term negative impact on the recreational, historical, economic, and aesthetic potential of the coastal region (Third Prehearing Conference Order, ¶11).

105. There exist a number of alternative methods for decommissioning a nuclear facility at the end of its useful life, including "mothballing," "entombment," and "removal" (FES, pp. 10-2, 11-33). Although all of the facilities decommissioned thus far were, in terms of power level, small reactors compared to the contemplated Seabrook reactors, the technology necessary to accomplish decommissioning is available and does not change because of reactor size or power level; more of the same kind of work would be involved (Tr. 5623, 5628, 5691, 5673; Applicants' Testimony, post Tr. 5576).

106. All of the methods can be carried out in such a fashion that there should be no significant long-term effects beyond the site itself. The future availability of the site will depend upon the question of whether a method of total removal will be employed or some form of in place entombment or mothballing. (Applicants' Testimony, post Tr. 5576, pp. 6-8; FES, pp. 11-33, 11-34; Tr. 5640-42; Tr. 5630) If the mode selected for Seabrook's decommissioning were less than complete removal, such as "mothballing" or "entombment," the public would only be denied access to those areas of the site within the security area in the case of "mothballing," and would be able to enter the buildings if "entombment" were involved (Tr. 5641-42).

107. In the cases of the buildings of two reactors which have been "entombed," one is used as an exhibition hall and the other as a garage for municipal vehicles (Tr. 5631, 5605-06).

108. The Board finds that decommissioning of the facility used should not have undue long-term negative impact on the recreational, historical, economic, and aesthetic potential of the coastal region.

**F. Public Lands and Access**

Intervenor State contends that Applicants' utilization of what are now

public lands will result in loss of public access to the Hampton-Seabrook marsh (Third Prehearing Conference Order, ¶20).

109. Construction of the plant requires the acquisition (by discontinuance) of a road (Rocks Road) leading to the site. Applicants plan to replace this road with a new access road over which townspeople will be able to pass to a new boat landing on a tidal river running through the marsh and known as Browns River. (Applicants' Testimony, post Tr. 5808, pp. 3-5, as modified by Tr. 5806-807)

110. First priority for use of this road will be accorded to the townspeople of Seabrook. However, Applicants will permit any member of the public to use the road unless overcrowding becomes a problem in which case Applicants have agreed with the Seabrook Selectmen to restrict access to townspeople from Seabrook. (Tr. 5810-11) The new road probably will not be open to public vehicular traffic until two to three years after construction starts (Tr. 5812).

111. The loading dock to be constructed on publicly-owned land in the Beach District, facing the so-called Black Water River, will be made available for public use both during and after construction. Construction of the facility will cause no interference with harbor traffic. (Applicants' Testimony, post Tr. 5808, pp. 4-5; Tr. 5813)

112. Access to the marsh from the area known as "The Rocks" will be restricted during certain times during construction. After the plant is operating, public access will be unaffected except in an emergency situation (Applicants' Testimony, post Tr. 5808, p. 5).

113. The Board finds that the construction and operation of Seabrook will not unduly interfere with public access to the marsh.

**G. Transmission Lines**

Intervenor Forests contends that the transmission line routes proposed by the Applicants will cause unreasonable environmental degradation in light of available alternatives (Third Prehearing Conference Order, ¶30).

114. A total of three transmission lines operating at 345 KV will be required to deliver the power generated by the two Seabrook units to the New England 345 KV transmission grid (ER, §3.9.1; FES, §3.8.2, §4.1.2; Tr. 9066-70, 9073-75). Applicants' proposed lines may be described as follows: The first line runs in a generally northerly direction from the facility to the so-called Newington Station (hereinafter the Seabrook-Newington line); the second line runs generally westerly from the facility to the so-called Scobie Pond substation (hereinafter the Seabrook-Scobie line); and the third runs generally southwesterly across the New Hampshire-Massachusetts border and thence to the so-called Tewksbury substation (hereinafter the Seabrook-Tewksbury line). The original proposed routings of these lines are shown on maps in the ER. (ER, §3.9; Figs. 3.9-1, 3.9-1A)

115. As a result of hearings held by agencies of the State of New Hampshire, an order was issued on January 29, 1974, by the NHPUC which ordered the issuance of a Certificate of Site and Facility for the New Hampshire portion of the three lines, which, with some small variations, were the same as those proposed in the ER. It is these routes which, with a possible minor variation in the routing of the Seabrook-Newington line in an area known as "Packer Bog," Applicants now propose to utilize. (NHPUC, Dkt. No. D-SF6205 *Public Service Co. of N.H. Seabrook Nuclear Power Plant, Certificate of Site and Facility, Commission Report and Order No. 11,267, January 29, 1974*, Order No. 11,267 and PUC Appendix 3—official notice taken at Tr. 8077; Applicants' Exs. 17A, 18)

116. In addition to the proposed routes, the Applicants have described two overall alternate routings for the three lines (ER, §10.9). "Alternate No. 1" would do away with the Seabrook-Tewksbury line and have two lines running parallel in a westerly direction from the facility to Scobie Pond substation on the same route as the proposed Seabrook-Scobie line, and then two lines on a common right-of-way running generally southeasterly from the Scobie Pond substation to the Tewksbury substation. (ER, §10.9, p. 10.9-1; Fig. 10.9-1)

117. Alternate No. 1 has been rejected by Staff and Applicants due to the major environmental and aesthetic impact caused by the routing of two transmission lines through the Pow Wow River-Cedar Swamp Natural Area (Applicants' Testimony, post Tr. 8081, p. 7; FES, §9.2.4, p. 9-13).

118. "Alternate No. 2" as proposed would do away with the Seabrook-Scobie line and would have two lines running parallel in a generally southwesterly direction from the facility to the Tewksbury substation on the same route as the proposed Seabrook-Tewksbury line, and then one line running generally north northeasterly from Tewksbury substation to the Scobie Pond substation (ER, §10.9; Fig. 10.9-2).

119. A study conducted by Applicants revealed that "Alternate No. 2" as proposed would have a detrimental effect on system stability and that consideration of system stability dictated that the second line from Seabrook to the Tewksbury substation as contemplated by "Alternate No. 2" would have to electrically by-pass the Tewksbury substation and extend to, and terminate at, the so-called Sandy Pond substation (hereinafter referred to as "Alternate No. 2" with the Sandy Pond extension) (FES, p. A-9; Fig. A4.1-2; FES, p. A-19; Applicants' Testimony, post Tr. 9239, pp. 1-4; Tr. 8304).

120. Adoption of the scheme of "Alternate No. 2" with the Sandy Pond extension would require the expenditure of more than $21,000,000, exclusive of right-of-way costs, in excess of the cost of the three-line scheme as originally proposed by the Applicants (FES, p. A-11; Applicants' Testimony, post Tr. 9239, pp. 4-8 and Sheets 1-9).

121. Staff recommends that Applicants' proposed routings be approved

with the exception that, with respect to the Seabrook-Scobie line, the Applicants should be required to "dogleg" the line around an area known as Cedar Swamp which lies along the Applicants' proposed route (FES, p. iv, §4.1.2, pp. 4-4, 4-6; Fig. 4.2; §9.2.4, pp. 9-13; Tr. 9673-77).

122. The Seabrook-Newington line will, upon leaving the switchyard, run northerly along a railroad right-of-way in part across the Hampton-Seabrook marsh a distance of approximately 2.25 miles until it reaches a corridor occupied by extant 34.5 KV lines owned by another utility. At that point, the line turns westerly along that corridor for a distance of about 2 miles at which point the line turns northerly to run on a new corridor parallel to, but separate from, an existing PSCO 34.5 KV corridor for a distance of about 0.75 miles where it then links up with the existing PSCO 34.5 KV corridor and proceeds northerly for about 2.25 miles into the northern part of the municipality of North Hampton, New Hampshire. At this point, the Seabrook-Newington line jogs northwesterly for a distance of about 0.75 miles, then back in an easterly direction a distance of about 2.25 miles. The line then turns generally northerly and runs about 2.5 miles through the southeast corner of the Town of Greenland, New Hampshire, across the Greenland-Portsmouth, New Hampshire border, skirting the fringes of Packer Bog to the southeast and joins an extant 115 KV corridor running between Scobie Pond substation and Newington Station and proceeds along that corridor in a generally northerly direction for a distance of about 5 miles to Newington. The total line length is approximately 18 miles and covers a straight-line distance of approximately 14 miles. (Applicants' Exs. 17A, 18)

123. Applicants have indicated a preference to deviate from the proposed Seabrook-Newington route in the area of Packer Bog. As approved by the New Hampshire Site Evaluation Committee, the line would skirt the southeasterly edge of the Bog. Because this route would possibly require the cutting of white cedar located on the edge of Packer Bog (Tr. 8135), Applicants would prefer to go straight through the Bog itself (Tr. 8135-36, Applicants' Ex. 18). This route would avoid the cedar and also would mean construction on a higher and drier strip of land than that encompassed in the Site Evaluation Committee route (Tr. 9046-49, 9128-29).

124. The proposed Seabrook to Scobie line runs westerly from the station on a new corridor in a generally westerly direction a distance of some 12 or 13 miles to approximately the border between the towns of Kingston and Danville, New Hampshire. The line then turns northwesterly and, with one jog, runs gnerally northwesterly approximately 4.5 miles through Danville to the existing Scobie Pond-Newington corridor. The line then follows this corridor a distance of about 9 miles in a west southwesterly direction and then jogs westerly a distance of about one mile to join an extant 345 KV corridor (The Maine Yankee line) which it follows southwesterly about 1.75 miles into Scobie Pond substation. The total line length is about 28.75 miles; to cover a straight line distance of 25-26 miles. (Applicants' Ex. 17A)

125. Only a small portion of the proposed Seabrook-Tewksbury line lies in New Hampshire. The line proceeds westerly from the station parallel on a common corridor with the Seabrook-Scobie line a distance of about 5.5 miles to a point in South Hampton. It then turns and runs about 6 miles southerly crossing the New Hampshire-Massachusetts border, and proceeds to the so-called West Amesbury substation. At this point, it picks up an existing 115 KV corridor and follows that corridor a distance of about 23 miles to a point (Dracut Junction) where it joins an existing 115-230 KV corridor and proceeds southerly along that corridor a distance of about 4.8 miles, to Tewksbury substation. Total line length is 39-40 miles, to cover a straight line distance of 28-29 miles. (Applicants' Ex. 17A)

126. The configuration proposed by the Applicants, as well as all alternatives discussed herein, assumes the existence of two other 345 KV lines: one from Tewksbury substation to Scobie Pond substation, which Applicants indicate to be a future system requirement which will be built with or without Seabrook; and a second line from Tewksbury to Sandy Pond which is already under construction, towers already having been erected, the right-of-way cleared, and awaiting only the stringing of conductors. (Tr. 8093-95 as corrected Tr. 8294-95; Tr. 9106)

127. The Pow Wow River-Cedar Swamp environs, comprising an area of approximately 1,000 acres (SPNHF Ex. 2, p. 3), is recognized as a natural area by the New England Natural Areas Inventory, funded by the New England Regional Commission (SPNHF Ex. 1, p. 2), and by the New Hampshire State Soil Conservation Service and the New Hampshire State Planning Office (Tr. 8912). The Society for the Protection of New Hampshire Forests has approximately 10-15% of this area under its protective ownership, which includes 50-60% of the dense or pure stands of the Atlantic White Cedar in this area (Tr. 8237). Through the center of this Natural Area flows the Pow Wow River, surrounded by both sides by an extensive freshwater marshland complex. This kind of extensive river-marsh ecosystem is very uncommon in southeastern New Hampshire—the nearest being approximately 100 miles away along the Merry Meeting River. (SPNHF Ex. 2, p. 6; FES, p. 4-5; Tr. 8229, 8557, 10148-10150) The Area contains relatively dense or pure stands of the Atlantic White Cedar, a species found only in the Atlantic coastal regions of the United States, which is becoming increasingly scarce as its available habitat is reduced by economic development (FES, p. 4-5; Tr. 9614-9615, 10148-10150).

128. Because of the existence of the Pow Wow River marshlands, this area is an important habitat and flight lane for migratory waterfowl and thus is one of the few areas in New Hampshire used by the Department of Fish and Game for its pre-season waterfowl studies and census (SPNHF Ex. 2, p. 3; Tr. 10133-10134). The Pow Wow River marshlands measure approximately 1,400 feet across, where the Applicants' proposed route lies, and approximately 1.4 miles in length, north and south (Tr. 10114-10116). This is a flat expanse of

floating and marshy vegetation, bisected by the Pow Wow River (Tr. 8557-8562; Applicants' Ex. 15). Across this expanse of marsh, there is an unobstructed view until the forest edge begins (Tr. 10114-10121). The only man-made structures visible are a few earth-colored duck blinds used by frequent duck hunters in season (Tr. 10117). No artificial structures are visible above the top of the surrounding trees, which are roughly 70 feet high (Tr. 10118, 10123).

129. The Society for the Protection of New Hampshire Forests is presently developing a series of nature trails and guided tours on its land (SPNHF Ex. 4, Part II), over which the lines will cross. The area is used by campers and canoeists and occasional youth groups (Tr. 8026, 8559, 8564-5, 9636-9638, SPNHF Ex. 4, pp. 6-7). Except during the hunting season, it is a relatively uncrowded and peaceful area. As the population and economic development of this region increases, the recreational value of this relatively pristine area will increase.

130. The Applicants' proposed transmission corridor would cross the Pow Wow River marsh about midpoint along its north-south length at one of its widest points (Applicants' Ex. 15, Tr. 8512, 8513). The crossing would be effected using two approximately 200-foot high steel lattice-work towers. The towers and the related transmission lines would be visible from most vantage points along the edge of the marsh as well as from the Pow Wow River.[24]

131. The Staff's proposed minimum circumference dogleg would pass through the surrounding forest and across scattered gravel pits, skirting the edge of the Natural Area (Tr. 10125, 10118-10127, 8239-8241). The supporting structures would be wooden H-frames (with the exception of the steel tubular shaft angle structures) which would blend in with the forest.[25] These structures would be approximately 75 feet high and would not be visible above the tops of adjacent trees (Tr. 8134, 10122-10123, 10125). The dogleg would not present any wide open vistas to visitors to the Pow Wow River—Cedar Swamp Natural Area (Tr. 10125).

132. Potential adverse effects from the Applicants' proposed construction methods can be alleviated with the Staff's minimum circumference dogleg, as the land on both sides of the river at the dogleg crossing is dry, forested land (Tr. 10121-10122). The cleared right-of-way the dogleg would pass through should provide sufficient room for the construction of berms or ditches to prevent construction runoff from reaching the river.[26]

---

[24] SPNHF Ex. 2, pp. 8-10. It is noted also that the span between the towers is about 2,275 feet and the lines would be about 50 feet above the marsh at their lowest point.

[25] ER, p. 10.9-1, Tr. 8140, Tubular steel poles are also more aesthetically pleasing than steel lattice towers. Tr. 9307.

[26] The right-of-way will be 170 feet wide. ER, Amendment #1, p. 3.9-1. However, it is doubtful that crossing the Pow Wow River using wooden H-frame structures will give rise to the need for any dewatering near the river's edge, as H-frame structures require no foundation. Tr. 9299, 9340, 9214-5, 9121-2.

133. There is a residual possibility that the Applicants' proposed construction methods may prove infeasible, requiring the placement of transmission structures in the marsh itself (Tr. 9133-9137) and/or the movement of heavy equipment into this natural area.

134. The presence of the lattice-work towers and associated transmission lines proposed by Applicants could cause significant numbers of the migratory waterfowl who use the Pow Wow River marsh as a feeding area and flight lane to avoid this natural area (Tr. 9758-9762, 9766-9767). This avoidance behavior is based on visual cues and can cause birds to fly off laterally from the disturbed area (Tr. 9759-9762; 10134-10135), the result being a loss in suitable habitat for migratory waterfowl and thus a proportionate reduction in population of the affected species (Tr. 9758-9759, 9766-9767, 10133-10134). This impact could be particularly significant in southern New Hampshire where river marsh habitat is rare.

135. Use of the Staff's proposed dogleg would require the cutting of some cedar (Tr. 9581-83, 9783, 9785); the increased economic cost, depending upon the dogleg chosen, would range between $400,000 and $1,300,000 (Tr. 8933-39). A through route for access by people and off road vehicles such as snowmobiles would result (Tr. 8941). Herbicides would have to be used on the right-of-way (Tr. 9022, 9034-35). The net benefit for the dogleg is that it would remove a visual insult from Cedar Swamp (Tr. 8945-46, 9464-9803).

136. Turning to the Seabrook-Newington line, Forests advocates a route which would avoid Packer Bog altogether by having the line jog to the north and west prior to reaching Packer Bog to join the existing 115 KV Scobie-Newington corridor and following that corridor into Newington (Forests Ex. 8, p. 4, and Attachment Nos. 4, 5; Forests Ex. 3, pp. A1-A2). Adoption of such a route would increase visibility (Tr. 8916-19, 9053-54) in the Town of Greenland, New Hampshire. Assuming parallel construction is used, the cost of Forests' route may be cheaper overall than the NHPUC or PSCO routes (Tr. 9168-75).

137. Based on the foregoing, the Board finds that Applicants' proposed routes, including that route directly through Packer Bog, are acceptable with the exception that, in the Pow Wow River-Cedar Swamp area the Staff's minimum circumference dogleg should be followed.

**H. Turbidity and Construction Runoff**

Intervenors Audubon and Forests contend that the Applicants have not given adequate consideration to the adverse impact on the biotic communities in the Hampton-Seabrook estuary and surrounding waters resulting from turbidity and siltation caused during construction of the facility and to the adverse effects of construction area runoff, dewatering of structures and construction of the cooling water system (Third Prehearing Conference Order, ¶8, 14).

138. The sources of runoff during construction of the facility will be from naturally occurring precipitation and water pumped from excavations to permit construction "in the dry."

139. A drainage system consisting of ditches, catchbasins, drain piping, and a sediment settling basin will be installed early in the construction effort. The drainage system is designed for a storm recurrence frequency of once in one hundred years, and a short duration downpour of 1.14 inches in ten minutes is the drainage design criterion. The proposed settling basin is approximately 166 feet x 346 feet in plan and six feet deep. The minimum retention time for the design storm is 17 minutes and silt in the particle size range 0.02 mm and over will be settled; discharge will be to the Browns River. (Applicants' testimony, post Tr. 10767, pp. 8-9)

140. Some turbidity will be created during the construction of the barge unloading and offshore construction service facility at Seabrook Beach. This facility will create an elevated area approximately 500' x 500' slightly below the level of an adjacent highway (Elev. + 10 MSL) where a beach now exists. Steel sheet piling will be used to retain earth fill on three sides; the highway will retain it on the fourth side. Some dredging of the harbor is required (about 30,000 c.y.). This will be done by a suction dredge after the steel sheet pile enclosure is complete and the interior will be used as a settling basin for the dredged material. It is not anticipated that water from the dredge discharge will overtop this sheet pile basin. Some minimal amount of turbidity will be created at the cutter head of the suction dredge. (Applicants' Testimony, post Tr. 10767, pp. 7-12)

141. The offshore facilities will be constructed by drilling large holes through the ocean bottom to the tunnel elevation, lining the holes, and then placing precast concrete segments to make the intake and discharge structures. Work will be done from a jack-up barge and will utilize a steel casing through the water and the overburden. Some uncontrollable turbidity will be created in placing and removing the legs of the jack-up barge and in placing the steel casing. Minor amounts of tremie concrete may also be required. (Applicants' Testimony, post Tr. 10767, p. 13)

142. State regulations limit the turbidity in any discharge to the Browns River to 10 Jackson Turbidity Units (j.t.u.), and Applicants are committed to this standard and all other standards for water quality governing this river (Applicants' Testimony, post Tr. 10767, pp. 10, 13-14).

143. Applicants have done an exhaustive sampling program to determine species distribution and community composition of both the Hampton-Seabrook estuary and coastal New Hampshire (Applicants' Testimony, post Tr. 10767, p. 14; Applicants' Exs. 23, 27, 28, 31). In addition, the Applicants have conducted a literature search with respect to the effects of turbidity and siltation at dredging sites (Applicants' Testimony, post Tr. 10767, pp. 15-20).

144. A study done by the Applicants shows that the soft-shelled clam (Mya

arenaria), one of the important species which might be affected, is tolerant to silt loading. Studies by the New Hampshire Fish and Game Department showed no clam mortality attributable to siltation from certain recent dredging activities in the area by the New Hampshire Department of Resource and Economic Development. (Applicants' Testimony, post Tr. 10794, pp. 12-13; Applicants' Ex. 25) A considerable amount of dredging has occurred over the past twenty years in the Hampton Harbor estuary without any undue adverse effects thereon (Applicants' Testimony, post Tr. 10767, pp. 20-23; Applicants' Testimony, post Tr. 10794, pp. 12-13).

145. The Staff has analyzed the likely effects of construction upon the Browns River, and has concluded that no serious and irreversible impacts are likely to be experienced (Staff Testimony, post Tr. 10910, *passim*).

146. The Board finds that the Applicants have given adequate consideration to the possible adverse impacts of turbidity and siltation resulting from construction of the facility upon the biotic communities in the Hampton-Seabrook estuary and surrounding waters, and that adequate consideration has been given to the possible adverse effects on these waters from construction area runoff and dewatering.

**I. Aquatic Effects of the Condenser Cooling System**

Intervenors Audubon, Forests, New Hampshire, Ross, and SAPL contend that the Applicants have not adequately considered and studied the environmental effects of the proposed condenser cooling system of the plant (Third Prehearing Conference Order, ¶¶6, 7, 14, 15, 23, 24, 31, 38, 39, 53).

147. As originally proposed by the Applicants, the condenser cooling system was to have an intake located approximately 3,000 feet off the shore of Hampton Beach (42°, 53', 48" N.; 70°; 48', 45" W.) (Applicants' Testimony 22, post Tr. 10546, p. 28 as corrected Tr. 10598; Applicants' Ex. 1a, pp. S5-22A, Fig. S5-1). Water would flow into the intake at a rate of 824,000 gpm and thence flow through a tunnel about 13,000 feet in length to the pumphouse at the site (ER, §3.4.2.1; FES, p. 3-7).

148. A single intake structure was originally contemplated (ER, §3.4.2.2; Fig. 3.4.4; FES, pp. 3-7, 3-9).

149. After absorbing heat in the condenser, about 16 x $10^9$ BTU/hr, the water will be discharged via a 15,000-foot tunnel through a discharge structure located some 5,000 feet off shore from Hampton Beach (ER, §3.4.2.3; FES, p. 3-7).

150. On August 1, 1974, the Applicants applied to EPA under FWPCA §316 for a Determination as to the propriety of its condenser cooling system as originally proposed to the NRC and as generally described above (*Public Service Co. of N.H.*, EPA Dkt. No. NH0020338, [Region 1], Determinations issued March 18, 1975, p. 1).

151. On March 18, 1975, EPA issued Preliminary Determinations with respect to the condenser cooling system for Seabrook as proposed. These were revised on May 16, 1975. In general EPA approved the concept of "once-through" cooling and the proposed diffuser discharge but required the location of the intake to be moved seaward into a specified quadrant and left open the question of intake design. (*Public Service Company of N.H., et al.* [Seabrook Station Units 1 and 2], Dkt. Nos. 50-443, 50-444, LBP-75-61, NRCI-75/10, p. 693, [hereinafter cited as "ASLB 10/3/75 Memo"]. *Public Service Co. of N.H.*, EPA Dkt. No. NH0020338, [Region 1] Determinations issued March 18, 1975, as revised May 16, 1975) The EPA Determinations were issued as Final Determinations on June 24, 1975, *(Public Service Co. of N.H.*, EPA Dkt. No. NH0020338 [Region 1], Determinations issued June 24, 1975; ASLB October 3, 1975 Memo, LBP-75-61, 2 NRC 693 at 695).

152. The State of New Hampshire through its Water Supply and Pollution Control Commission (NHWSPCC) issued a §401 certificate, (May 29, 1975), approving the location of the discharge and setting forth certain limitations necessary to assure compliance with FWPCA and State law (ASLB 10/3/75 Memo, LBP-75-61, 2NRC 693 at 695, Tr. 2794, Applicants' Ex. 40).

153. The EPA Determinations as isued required that the intake be relocated further offshore within the northeast quadrant of a circle having a two-mile radius and centered upon the northern edge of the so-called "Outer Sunk Rocks" (Applicants' Testimony, post Tr. 10546, p. 28; *Public Service Co. of N.H.*, EPA Dkt. No. NH0020338, Region 1, Determinations issued June 24, 1975).

154. Applicants proposed to EPA, and filed in the form of amendments to the PSAR and ER with NRC and this Board, a new intake proposal. This proposal was for an intake location some 4,000 feet east of the original location and some 7,000 feet offshore (42°, 54' N.; 70°, 47' W.) (Applicants' Testimony, post Tr. 10546, p. 28 as corrected Tr. 10598; Applicants' Ex. 1a as corrected Tr. 10598). The incremental cost of moving the intake location will be an additional amount of money in excess of $12,000,000 (Tr. 10596, 10636, 11556). Applicants also proposed a scheme using three intake structures as opposed to a single intake structure (Applicants' Ex. 1a, pp. S5-22ff).

155. On September 30, 1975, EPA issued another set of Preliminary Determinations approving Applicants' new proposed intake location and design (*Public Service Co. of N.H.*, EPA Dkt. No. NH–2-338, Region 1, Determinations sent to NHWSPCC September 30, 1975).

156. On October 9, 1975, the State of New Hampshire issued a §401 certificate approving the second EPA Determinations (Applicants' Ex. 42, Tr. 8771, 11056).

157. On October 24, 1975, EPA issued Final Determinations with respect to the new intake location and design, approving both (*Public Service Co. of N.H.*, EPA Dkt. No. NH0020338, Region 1, Determinations issued October 24, 1975, Tr. 11056).

158. Applicants conducted studies over the period 1972-1973 of phytoplankton, zooplankton, and meroplankton larvae (exclusive of ichthyoplankton) (Applicants' Ex. 27, Applicants' Testimony, post Tr. 10546, pp. 28-29). In the period 1973-1974, a sampling program was continued, following the developmental stages and adults of three indicator species of zooplankton in detail throughout the year at the originally proposed inlet location and in sampling area north and south along the coast. In addition, *Mya arenaria* (the soft-shelled clam) larvae were sampled live and distinguished from *Hiatella artica* larvae. (Applicants' Testimony, post Tr. 10546, pp. 29-20; Applicants' Ex. 32) With respect to ichthyoplankton, the Applicants conducted studies to determine the monthly average abundance of all species of eggs and larvae found in the immediate vicinity of the originally proposed intake location (Applicants' Testimony, post Tr. 10546, p. 30; Applicants' Ex. 31).

159. The various sampling programs described above were done at the time when it was assumed that the intake would be at the original location. However, the new intake location is only 4,000 feet away from the originally proposed intake and is still within the near-coastal area off Hampton. The hydrological studies conducted by the Applicants covered a much broader area than the original proposed intake area and demonstrate that the entire near-coastal area is dynamic. The studies indicate that there exist no long-term differences with respect to species composition or abundance of plankton throughout the near-coastal area. (Applicants' Testimony, post Tr. 10546, pp. 31-32; Applicants' Ex. 27, Tr. 10652)

160. Applicants have conducted studies to determine the spatial and temporal distribution of plankton within the near-coastal area (Applicants' Testimony, post Tr. 10546, pp. 32-34; Applicants' Exs. 27, 29, 30, 31, 32, and 33). Applicants have also conducted hydrographic field studies since 1972 including continuous monitoring of oceanographic and meteorological parameters, ocean survey cruises, 13-hour anchor stations, release of drift bottles and seabed drifters, thermal infrared overflights, sediment transport studies, drogue studies and diver observation of water current flow patterns (Applicants' Testimony, post Tr. 10546, pp. 35-44).

161. In order to make estimates of projected mortalities, the Applicants defined the ecosystem as the seaward distributional limit for species being considered. In setting up the limits, the Applicants attempted to build in conservatisms by setting the boundary somewhat short of the actual seaward distribution observed and by assuming a uniform distribution to a depth of 30 feet for the species. In fact, the water is deeper than that, about 50 feet, and thus the calculations would tend to overstate the percentage of mortality. (Applicants' Testimony, post Tr. 10546, pp. 45-46; Tr. 10603) Volumetric calculations indicate that, under average hydrographic conditions, a maximum of 5% of some near-shore meroplanktonic population might be affected. Analytical studies of the flow characteristics indicate that, under typical hydrographic conditions,

over short periods of time, a maximum of 3-5% of the meroplankton organisms including the larvae of the soft-shelled clam (*Mya arenaria*) passing by the intake within 2.5 miles of shore would be entrained. The Staff has also evaluated this effect and concurs. (Applicants' Testimony, post Tr. 10546, pp. 44-45; Applicants' Ex. 32; Staff Testimony, post Tr. 10883, pp. 5-9)

162. Although the foregoing evaluation was based upon the assumption of the intake being at the original location, the new location is still within the zone utilized as the ecosystem, but will result in the intake being located in deeper water. Therefore, it would appear reasonable to assume that the percentages of mortality calculated for the original intake location will not be significantly modified (Applicants' Testimony, post Tr. 10546, pp. 47-48; Tr. 10691, 10711).

163. The design inflow velocity of the Seabrook intakes will be about one foot per second (Applicants' Testimony, post Tr. 10546, p. 48). One of the major features will be the inclusion of velocity caps. The velocity caps and the intake structures have been designed as an integrated whole. (Applicants' Testimony, post Tr. 10546, pp. 48-55; Tr. 10560-63; Tr. 10577-80) The velocity caps will be well below the surface zone and well below the direct wave impact influences which would occur during storms. In addition, the intake structure has been designed with hydrodynamic loadings corresponding to the maximum wave which could be supported in the depth of water at the intake location. The wave loadings were determined utilizing conservative assumptions in the estimation of both the horizontal and vertical wave structures. (Tr. 10576-77)

164. The design does not include means for removing entrapped fish in a live condition. It is not feasible to provide for fish removal at the intake itself, and it is not expected that any fish which reach the traveling screens at the pumphouse will survive the pressure gradient between the intake and the pumphouse at the plant site. (Tr. 10557-58)

165. Applicants have conducted studies of the finfish in the area including studies of the spatial and temporal distribution of the various species utilizing this area. The studies suggest that large schools pass through the near-shore area only rarely, and assuming a relatively high rate of entrapment (compared to the entrapment rate vis-a-vis resident fishes) when schooling migratory fish do pass near the intake, it appears doubtful that this could have an important effect on overall population of the species involved (Applicants' Testimony, post Tr. 10546, p. 55; Applicants' Ex. 31; Tr. 10732-33; Tr. 10741-42).

166. The intake will be located in an area where the bottom is not attractive to browsing fish. The intake openings are 8 to 18 feet off the bottom which will protect against entrapment of bottom dwelling fish, and its location is in a depth of 55 feet of water which should mitigate the entrapment of surface oriented fish. In addition, the elimination of the vertical component of the intake current by use of the velocity caps should mitigate entrapment. (Applicants' Testimony, post Tr. 10546, p. 56; Tr. 10563, 10577-78)

167. The Staff has made a study based upon operational entrapment data

gathered at a west coast plant, utilizing correction factors to account for differences in design and velocity, and has concluded that the potential for entrapment is low, and the calculated amount of entrapment to be expected is about 3.2 tons of fish per year (Staff Testimony, post Tr. 10883, pp. 2-5 as corrected Tr. 10881).

168. Based on the foregoing, entrapment of fish is not expected to be significant.

169. The discharge of heated water from the condenser cooling system gives rise to the possibility of three categories of effects which include gas bubble disease (GBD) resulting from fish breathing water which is supersaturated with gases due to increases in temperature and pressure during passage through condenser cooling system, themal shock and other thermal effects (lethal and sublethal) to organisms located in the discharge area and, finally, cold kill due to reverse thermal shock should the plant be shut down during the winter months (Applicants' Testimony, post Tr. 10546, pp. 25-26).

170. The Seabrook discharge structure will be a submerged multi-port diffuser located about one mile east of Hampton Beach. The diffuser will be about 1,000 feet long with 22 nozzles, each of which is about 2.6 feet in diameter with a discharge velocity of 15 fps. The nozzles will be aligned in a northwest-southeast array and will discharge in an easterly (offshore) direction. (Applicants' Testimony, post Tr. 10546, p. 57; Applicants' Ex. 1a, p. S5-22A)

171. Extensive tests were run on a physical model of the proposed intake-discharge area. The model included a section of the Atlantic Ocean of approximately 9,000 x 9,000 feet (1,860 acres) on a scale of 1/115 and had the capability to be operated in such a manner as to simulate the currents which had been observed at the site as a result of the hydrographic field studies. The tests indicate that the maximum near-surface isotherm which will result subsequent to a near-field jet mixing will be about 4°F. In addition, an analytical model was developed to account for certain effects which were not producible in the physical model. (Applicants' Testimony, post Tr. 10546, pp. 57-64; Tr. 10715)

172. The utilization of the subsurface high velocity discharge proposed will provide rapid mixing and cooling. The rapid rate of cooling combined with the high velocity of the rising plume should provide little opportunity for long-term residence by fish within excessively warm water. This should mitigate the possibility that large numbers of fish would suffer from thermal effects, GBD, or cold kill. (Applicants' Testimony, post Tr. 10546, pp. 69-70; Tr. 10688; Staff Testimony, post Tr. 10883, pp. 1-2; Tr. 10898-99)

173. The Board finds that the Applicants have given adequate consideration and study to the possible environmental effects of the proposed condenser cooling system, and that the evidence indicates that operation of the plant with the proposed condenser cooling system will not have significant adverse environmental effect on the aquatic ecosystem with either of the two intake locations.

174. The Board finds further that, although a closed-cycle cooling system employing either natural-draft or mechanical-draft cooling towers would result in smaller impact on aquatic biota, other environmental and monetary costs substantially outweigh this advantage. Therefore, the Board concludes that the Seabrook site is unsuitable for a closed-cycle cooling system.[27]

**J. Effects on Clams and Clam Flats**

Intervenor SAPL contends that construction and operation of the facility will have an adverse effect on the clam flats in the area of the facility, resulting in the loss of revenues from the sale of clam licenses by the State of New Hampshire (Third Prehearing Conference Order, ¶ 42).

175. There are five clam flats in the Hampton-Seabrook estuary which hold approximately 85% of the soft-shelled clams (*Mya arenaria*) resident in the estuary. The construction of Seabrook Station itself will not result in any destruction or siltation of any of the five clam flats. (Applicants' Testimony, post Tr. 10794, pp. 9-10; Applicants' Exs. 26, 30, Fig. 1) Construction of the barge unloading and offshore service facility will necessitate the destruction of a small intertidal area of between 3-4 acres (approximately 150,000 square feet) located on the westerly side of Route 1A in Seabrook about 900 feet southerly of the Hampton Harbor bridge. The construction project will require this unloading and service facility only for about five years. The Applicants have agreed to leave the facility there for use by the public if requested to do so by local or State officials or to remove it if that is desired. (Tr. 6103-104) The 3.5-acre area is not a "clam flat," having a density of only 3 clams per square foot versus an average of 16.5 clams per square foot on the five "clam flats" referred to earlier. (Applicants' Testimony, post Tr. 10794, pp. 11-12; Tr. 10797-98; Staff Testimony, post Tr. 10910, p. 3)

176. The sale of clam licenses apparently bears no relationship to the productivity of the clam flats at Hampton-Seabrook. There has been a steady dwindling of the clam resources since 1967 (probably due to human predation by digging), and the number of clam licenses has increased steadily since 1968 (Applicants' Testimony, post Tr. 10794, pp. 15-20; Tr. 10609, 10796; Tr. 10869-70).

177. It appears that the larval stock for the Hampton-Seabrook estuary is part of a large coastal pool generated by the adult population along the coasts of northern Massachusetts, New Hampshire, and southern Maine from which all of the estuaries in any year recruit their next generation. The actual source in any given generation in any given estuary is dependent on local hydrographic conditions at the time of disposition and deposition. (Tr. 10602-03, 10798-99, 10825-26; Applicants' Exs. 26, 27, 30, 32, 33, 35)

[27] See Supporting Opinion, Section G for further discussion.

178. Applicants have developed an analytical flow model for the prediction of clam larvae mortality assuming uniform spatial distribution of the larvae in the water column, which model predicts the entrainment of 2.9-4.6% of the soft-shelled clam larvae passing by the intake in a 2.5-mile wide coastal band (Applicants' Testimony, post Tr. 10794, p. 14: Applicants' Ex. 32; Tr. 10603, 10855).

179. The Staff has constructed a similar model on the basis of which the Staff predicts an entrainment value of about 2.6% (Staff Testimony, post Tr. 10883, pp. 6-9).

180. Since the adult population of clams in the flats appears to be being controlled by factors other than the number of spat which set, the effect of the entrainment predicted should have no significant adverse effect on clam flat populations (Applicants' Testimony, post Tr. 10794, pp. 14-15; Staff Testimony, post Tr. 10883, p. 9; Applicants; Exs. 30, 35).

181. Based upon the foregoing, the Board finds that entrainment of clam larvae during operation of the Seabrook Station will not have undue adverse effects on the harvestable clam populations in the Hampton Harbor estuary.

**K. Commercial and Sport Fishing**

Intervenor SAPL contends that construction and operation of the facility will result in economic loss to commercial and party boat fisherman in the area (Third Prehearing Conference Order, ¶41).

182. There appear to be two types of commercial fishing in the proposed intake area: lobstering and infrequent gill netting.

183. The adult lobster is a bottom dweller which, it appears, will be unaffected by the intake which is located some 8 to 18 feet off the seabed or the jet discharge of warm water which will not contact the bottom. There is a chance for entrainment of lobster during the planktonic larval stage but the surface orientation of lobster larvae should serve to minimize this occurrence.

184. The gill netting in the intake discharge area is directed principally at the cod (*Gadus morhua*) which is also a bottom dwelling species. Thus, the same principles regarding entrapment and entrainment of larval stages will apply to the cod. (Applicants' Testimony, post Tr. 10728, p. 4; Applicants' Ex. 32)

185. The principal sport fish in the intake-discharge area are the winter flounder and the yellow-tail flounder. Both of these species are strongly bottom oriented during the adult stage and, thus, will be unlikely to be entrapped or affected by the jet discharge for the reasons noted above. Yellow-tail flounder larvae are primarily surface oriented, appearing in the mid-depths where the intake is located only during metamorphosis to the adult bottom dwelling stage. Winter flounder larvae may at times be found in the mid-depths of the water column where they would be subject to entrainment; however, the data appear to indicate that winter flounder spawn well to sea from the proposed intake-

discharge area. (Applicants' Testimony, post Tr. 10728, p. 5; Tr. 10619)

186. There are certain other pelagic sport fishes, such as pollock, mackerel, and striped bass, found in the intake-discharge area at various times of the year. However, they do not spawn in that immediate area, and the evidence appears to indicate that entrainment and thermal effects on them should be slight. (Applicants' Testimony, post Tr. 10728, p. 6; Applicants' Testimony, post Tr. 10546, pp. 55-56; Applicants' Exs. 30, 31)

187. Based upon the foregoing, the Board finds that the construction and operation of Seabrook will not have any significant adverse economic or other effect upon commercial and sport fishing in the area.

**L. Need for Power**

Intervenors NECNP and Ross contend that the Applicants' forecast of the Need for Power (projection of peak demand) is incorrect (Third Prehearing Conference Order, June 18, 1974, ¶¶33, 56).

188. The Seabrook Nuclear Station will be owned by several New England utilities, each of which is a participant in the New England Power Pool (NEPOOL). Public Service Company of New Hampshire (PSCO) will operate the Station and will hold about 50% ownership. The need for the proposed station is related to the requirements of generating capacity of both NEPOOL and PSCO. The construction of new bulk generating capacity in New England is planned and coordinated by NEPOOL. The obligations of NEPOOL participants include the central dispatch of all generating units of NEPOOL participants, maintenance of generating reserves adequate to insure the reliability of the pool, joint use of transmission facilities for specified pool purposes, and joint planning of future generation and transmission. Each participant has an obligation to meet its own "Capability Responsibility," that is, to install or otherwise participate in capacity equal to its share of the total generating capacity required to serve the New England load. (ER, §1.1; FES, §8.1)

189. One practical effect of the NEPOOL agreement is that, so far as the generating capacity required by each participant to meet its own power demand is concerned, participants with newly installed units, which usually provide temporary excess capacity for that utility, provide power to other participants who might be otherwise short on operating or reserve capacity. As total demand in the NEPOOL service area grows, the reserve required is provided by installing new units by the participants in sequence, according to requirements of geographical load growth and of system reliability and (electrical) stability. The Seabrook Station is intended to supply power primarily for the New Hampshire and Northern Massachusetts region and to balance the NEPOOL transmission system.

190. NEPOOL has adopted a policy of increasing its nuclear base load capacity, and its objective is that in the future nuclear generating plants will

compose about 50% of the system's total capacity (Applicants' Testimony, post Tr. 11106, pp. 103-104; Tr. 12486-87). Presently about 17% is nuclear.

191. The proposed Seabrook Station along with other nuclear units presently authorized by NEPOOL represents the implementation of that policy. The end result of this policy would be that nuclear plants would supply all base load, and fossil and hydroelectric capacity would supply cycling and peaking load. (Tr. 11164) The basis for this policy is that New England has been and is heavily dependent on imported oil as fuel for its generating stations, and NEPOOL considers the supply of oil to be uncertain and believes that it should reduce its dependence on this fuel (Tr..11337-38).

192. NEPOOL and Applicants propose also that the substitution of nuclear power plants for fossil plants is justified for the foreseeable future on economic grounds even though the capital cost of nuclear plants is substantially higher now than for fossil plants. The cost of electricity-per kilowatt hour from nuclear plants is less sensitive to the changes in cost of uranium than the cost of power from fossil plant to fossil fuel cost. It is suggested also that substitution of nuclear fuel for fossil fuel is justified also on the grounds that the fossil fuels are important and useful for purposes other than their caloric value. (Applicants' Testimony, post Tr. 11106, pp. 97-99; post Tr. 12229, pp. 7-8; Tr. 11196-98, 11205-09; Tr. 11310-13)

193. NEPOOL currently forecasts an annual compound growth in demand, for the period 1976-1986, of 5.6% in the New England (NEPOOL) area (Applicants' Ex. 43). This forecast reflects the impact of the energy and fuel supply conditions which changed abruptly in 1973, and NEPOOL's revised view of the economic and energy situations now and in the future. During the period 1963-1973, the annual average growth in demand was 7.4% in winter and 8.9% in summer. In the years of 1974 and 1975 the peak load was essentially the same as 1973 or slightly less. This effect is the composite result of the conservation efforts following the oil embargo of late 1973, followed by sharp rises in the price of oil, and the economic recession which reached its depth in 1974 and 1975.

194. Using econometric analysis, Applicants developed projections of electric energy requirements for the PSCO service area and for New England as a whole. For the period 1970-1985, it was projected that consumption of electricity in PSCO area would grow at a rate between 6.0% and 7.0%. For New England the projections indicate a growth rate in the range of 4.7% to 5.9%. The ranges reflect uncertainties in economic and demographic factors, and the uncertainties concerning the relationship between these factors and sales of electricity. (Applicants' Testimony, post Tr. 11106, pp. 57-91)

195. Applicants' current projection is that peak demand (in the PSCO service area) will grow at a rate of about 7.3%, and at a rate of about 7.4% in energy sales (Tr. 12669), being slightly higher than the high projection by its

consultant. New Hampshire has been for the past several years the fastest growing area in population in New England, and the annual increase in sales of electricity averaged about 9.3% from 1960 to 1973, and about 9.9% from 1968 through 1973. For the years 1974 and 1975, total energy sales were essentially unchanged from 1973, being up 0.1% in 1974, and in 1975 sales were 0.5% less than in 1974. (Applicants' Testimony, post Tr. 11106; Fig. 5; pp. 15-21; Tr. 12644-46)

196. The major negative impacts on sales in 1975 relative to 1974 were due to the residential and industrial areas, these showing no change and minus 5.0% respectively, while commercial sales and sales to other utilities showed increases. It appears that the recession in economic activity, causing reduction in personal income, has caused residential customers to reduce their consumption of energy. In the PSCO area this situation has been aggravated because of the substantial number of seasonal (vacation) homes. (Tr. 1182-85) It is predicted that industrial activity will increase as the area moves out of recession and make up lost ground and move even higher, and that residential sales are likely to behave similarly, though perhaps not as quickly. (Tr. 11188-89; 11192-95)

197. Applicants have endeavored to take into account the effect of price increases on the consumption of electricity (price elasticity) (Applicants' Testimony, post Tr. 11106, pp. 62-72; Appendix A). The price of electricity in real dollars is expected to increase until about 1980, and to remain about constant in the period 1980-1985, that is, the price is not expected to rise faster than the general price level (Tr. 11298-99). It is thought that of the overall decline in the growth rate of consumption of electricity in 1973-1975, one third to one half may be attributed to conservation efforts, about one quarter to one third to the recession, and the remainder to price increases (Tr. 11252-58). However, the effects of the recession are considered to be transitory, so that in the next decade or so, the growth rate in demand for electricity will be positive, but will continue to be governed primarily by general economic activity, price changes, and conservation efforts.[28]

198. While Applicants' currently project demand to increase at a rate of about 7.3%, it is recognized that substantial uncertainty obtains in forecasts, and Applicants suggest that the actual growth rate for the New Hampshire area may be in the range of 5% to 9% (Tr. 11273-74). NEPOOL has forecast a growth rate of 5.6% (¶193, *supra*), but also has analyzed its authorized additions to generating capacity with regard to both reliability (of service) and economics. If it is assumed that all presently authorized NEPOOL plants, some 8,080 MW, are installed on schedule, and that the load grows so slowly that all this capacity is

[28] It is expected that conservation efforts will include more efficient equipment and procedures used by industry, more efficient home and office appliances, and measures taken by residential customers.

not needed until 1990, it is estimated by NEPOOL that a saving of almost $2 billion could be realized in the total cost of electricity in the period 1975-1990.[29] This figure represents the estimated difference in cost between the installation and operation of the planned nuclear plants and the cost of operating existing fossil-fueled plants with the addition of gas turbines or other low capital cost plants to meet peak demands. (Tr. 11165-72) Thus, if the load grows more slowly than anticipated, all the presently planned nuclear plants may not be needed, for reasons of reliability, before about 1990 but it appears that it would be economically advantageous to install them.

199. Turning to the subject of reserve margin, NEPOOL calculations indicate that the appropriate reserve for the NEPOOL system in the early 1980's will be approximately 24-25%. These reserve projections represent an increase over present objective reserves, of about 20%, and are made due to the fact that NEPOOL will have several large new units coming on line in the early 1980's. The reserve objective is set utilizing a model developed by NEPOOL together with Westinghouse Corporation which enables NEPOOL to analyze the probabilities with respect to generation available and the load that must be carried. Required reserves are projected utilizing this model and are set to meet a NEPOOL criterion of a probability of loss of load one day in ten years. (Tr. 11525-29)

200. Assuming construction between 1976 and 1986 of all presently authorized NEPOOL units, NEPLAN[30] forecasts for the winter peak of 1981/1982: capacity of 24,225 MW, a peak load of 19,191 MW and thus a reserve of 5,034 MW which would represent a reserve of 26.2%. For the 1983/1984 winter peak NEPLAN forecasts capacity of 27,828 MW, a peak load of 21,369 MW and thus a reserve of 6,459 MW or 30.2%. Absent construction of Seabrook projected NEPOOL reserves for 1981/1982 and 1983/1984 are 20.2% and 19.5%, respectively. (Applicants' Testimony, post Tr. 12229, p. 5; Figs. 1 and 2; Applicants' Ex. 43)

201. Based on the foregoing, the Board finds that, considering the uncertainties of forecasting, Applicants' and NEPOOL forecasts of demand for electricity are within a reasonable band of uncertainty, that it will be economically advantageous to install the Seabrook Station, that the substitution of nuclear fuel for fossil fuel is in the interest of conservation of fossil resources of widely varied usefulness, and that the Seabrook Station will be needed in the early to middle 1980's to meet anticipated loads in New England with appropriate reserve margin.

[29] It was assumed that the cost of nuclear fuel is about 6 mills per kilowatt hour. More recent information set this cost at more than 7 mills, so the net saving would be somewhat less.

[30] The NEPOOL Planning Committee.

## M. Reliability

Intervenor NECNP contends that Applicants have overestimated the reliability factor of the plant because of the inadequacy of the Applicants' quality assurance program (Third Prehearing Conference Order, ¶55).

202. Applicants' quality assurance program has been found to be acceptable (see ¶12, *supra*). There appears to be no substantial basis for assuming that long-term capacity factors for coal and nuclear units should be significantly different.[31]

203. The Board finds that the Applicants' quality assurance program has not adversely affected estimates of the reliability factor of the Seabrook Station.

## N. Alternate Energy Sources

Intervenors NECNP and Ross contend that Applicants have given inadequate consideration to alternate energy sources, specifically:

(a) wind power
(b) solar heating and cooling in existing and new structures
(c) solar central generation of electricity
(d) geothermal energy
(e) methane gas from sewage
(f) fuel cells
(g) solid waste central generation
(h) M-H-D generation of electricity
(i) use of ocean thermal gradients to generate electricity
(j) generation of electricity by biomass (wood) conversion
(k) generation of electricity by coal
(l) generation of electricity by oil from oil shale
(m) conservation of energy as an alternate

### (a) Wind Power

204. With respect to wind power, central generation by wind power on the scale necessary to obviate the need for any substantial portion of Seabrook by the early 1980's is not feasible (Applicants' Testimony, post Tr. 6250, p. 15; FES, §9.1.1.2, p. 9-4; §11.9.1.1, pp. 11-32).

205. The Board finds that wind power is not a feasible alternative to Seabrook.

### (b) Solar Heating and Cooling

206. Components for solar heating and cooling systems are now available on a limited basis, but are not yet in mass production. A number of structures have

[31] See Supporting Opinion, Section H.

been constructed using solar heating, supplemented by heat pump and/or electric heating. Test results suggest that solar heating is technically feasible, and demonstration programs, sponsored by the U.S. Government, are proposed for the near future. It is not expected that solar energy will supply a significant portion of the nation's energy needs in the foreseeable future. (Applicants' Testimony, post Tr. 6250, pp. 13-15; Tr. 6355-81; Tr. 6860-6931; Tr. 6431-35; Tr. 6461; NECNP Ex. 14; Staff Testimony, post Tr. 7330, pp. 1-2)

207. The Board finds that solar heating and cooling is not a viable alternative to the Seabrook Station.

**(c) Geothermal Energy**

208. There are no readily accessible suitable sites known to exist in New England; and use of the nearest possible site (deeper than any site previously utilized) in the Virginias would be prohibitively expensive because of associated transmission costs (Applicants' Testimony, post Tr. 6250, pp. 17-18; FES, §§ 9.1.1.2, 11.9.1.1).

209. The Board finds that geothermal energy is not a viable alternative to Seabrook.

**(d) Fuel Cells**

210. Economical fuel cell generating stations have not yet been developed for general use (Staff Testimony, post Tr. 7330, pp. 5-6).

211. The Board finds that fuel cells are not a viable alternative energy source.

**(e) Solid Waste Central Generation**

212. It is estimated that, by 1982, three facilities in Massachusetts, now in the planning stage, will be producing 145 MW(e) (Commonwealth Ex. 1). One of these facilities (the Saugus Facility) is in the discussion stage (Tr. 7872), and the other (Haverhill) is at the point where a contract is under negotiation and a state environmental impact statement is being written (Tr. 7835-36).

213. The waste from 80% of all New England would be necessary to fuel a 2,300 MW(e) facility. The waste reasonably available in the PSCO service area represents a potential for only a very small amount of the energy to be produced by Seabrook. (Applicants' Testimony, post Tr. 6250, p. 16; Staff Testimony, post Tr. 7330, p. 8)

214. The Board finds that generation of electricity by solid waste does not represent a viable alternative to Seabrook.

**(f) M-H-D Generation of Electricity**

215. The Board finds that generation of electricity by M-H-D (Magnetohy-

drodynamics) is currently in its infancy, the state-of-the-art being a 25 MW(e) plant operating in the U.S.S.R. Significant technological breakthroughs are needed before it will be available on a large scale comparable to Seabrook. (Applicants' Testimony, post Tr. 6250, p. 13; FES, §11.9.1.1)

**(g) Use of Ocean Thermal Gradients**

216. The Board finds that with respect to ocean thermal gradients, such a method of generation is not feasible on the New England coast, the nearest feasible site being off the coast of Miami, Florida (Applicants' Testimony, post Tr. 6250, p. 17; FES, §11.9.1.1, §9.1.1.2).

**(h) Generation of Electricity by Biomass (wood) Conversion**

217. At present wood is not cost competitive as a fuel for electrical generation and future increases in prices of competitive fuels plus technological breakthroughs are necessary to make it so (SAPL Ex. 8, pp. 5-6; Tr. 7244-99). Efforts are under way to develop wood-burning furnaces for homes and commercial establishments on a small scale (Tr. 7123-59).

218. The Board finds that wood is not a viable alternative to the Seabrook Station.

**(i) Generation of Electricity by Coal**

219. Since 1973, costs of nuclear fuel have risen significantly, and are expected to rise in the future (Applicants' Testimony, post Tr. 12229, pp. 3-4). The price of coal also has risen and is expected to rise further (Applicants' Testimony, post Tr. 10162, p. 16; Tr. 11298-302; NECNP Ex. 22, Table 5).[32]

220. Fuel costs are a substantially greater proportion of total generating costs of fossil units than of nuclear units, that is to say, a doubling of nuclear fuel costs has a much smaller effect on cost per kwh in a nuclear unit than would the doubling of fossil fuel costs on cost per kwh in a fossil unit (Tr. 11174, 11198; Tr. 11103-04). For example, it is estimated that for plants going into service in 1984, the cost of generation will be about 39 mills/kwh for a nuclear unit, of which about 7.7 mills/kwh is fuel cost. For a coal unit, the estimated cost is about 56 mills/kwh, of which about 23 mills/kwh is fuel cost. (NECNP Ex. 22, Table 5) These estimates are based, *inter alia*, on assumed capacity factors of about 70% for nuclear units, and about 74% for coal units. There

[32] NECNP's Ex. 22 was offered in evidence at Tr. 12444 but the Board's ruling was deferred at *Tr.* 12466 at Staff's request, pending Staff's motion in opposition (*Tr.* 12464). The Board denied Staff's motion in ASLB Memorandum and Order on various motions to strike dated June 25, 1976. NECNP's Ex. 22 is hereby received in evidence.

appears to be no substantial basis for assuming that long-term capacity factors for coal and nuclear units should be significantly different. (Tr. 6500; 7708-10; Tr. 10014-16)

221. Assuming that both fossil and nuclear plants meet applicable standards, particulate and gaseous emissions are higher from fossil units than from nuclear units. Radioactive effluents from nuclear units are potentially higher than those from coal-fired units. For once-through condenser cooling water systems the water requirements and heat rejection are about 30% less for a fossil-fueled unit. Creation and shipment of radioactive wastes from nuclear plants are adverse environmental effects, as are transportation and storage of coal for fossil units and the use of coal requires storage or disposal of large volumes of ash. (FES, §9.1)

222. Based on the foregoing, the Board finds that the Seabrook Nuclear Plant is the preferred alternative to a coal-fired plant.

(j) Conservative Measures

223. A number of methods for conserving use of electricity in residential and commercial buildings were suggested. These methods relate to modification of existing buildings, incorporation of certain features in the design of new buildings, and changes in current operating practice. With regard to residential buildings, suggestions were made concerning space heat, water heat, air conditioning, refrigeration, cooking, lighting, clothes drying, and miscellaneous factors. For commercial buildings measures concerning lighting, mechanical equipment, air conditioning, and other items were suggested. It is estimated that the implementation of all measures suggested could result in potential reduction of 13% for existing residential users, and about 36% for future residences. The corresponding potential reductions for commercial users are about 32% and 52%. A combination of factors including governmental, economic, and social pressures would be required to effect the changes suggested. (NECNP Ex. 13, pp. 6-8; Tables 2B, 2C, 3B, 3C)

224. No basis presently exists for predicting whether or when such conservation efforts would come into being either nationally or regionally although some efforts are underway now (Tr. 6613-17).

225. It was suggested that a portion of the power to be generated by the Seabrook Station could be replaced with power generated by pulp and paper companies. Some of the paper companies in New England now generate their own power, and at times sell power to the utilities. Presently it appears that those paper companies that generate their own power use back-pressure steam turbines, which can utilize fossil fuels and/or pulp liquors or bark. It is proposed that the use of gas turbines, and waste heat boilers to generate process steam, would be a more efficient means of generating electricity by the paper mills. To

supply firm power by either method would require operation of the power system at all times, i.e., when the paper mill is shut down. Under these circumstances the cost of electricity would be substantially higher than when the mill is in operation. Presently, PSCO does not foresee substantial amounts of power available from paper mills, and its current purchases from these sources are very small. (NECNP Ex. 17; Tr. 7523-30; Tr. 11178-80)

226. Based on the foregoing, the Board finds that conservation measures do not constitute a viable alternative to the Seabrook Station.

**O. Alternate Sites**

Intervenors Audubon, Forests, State of New Hampshire, Ross, and NECNP contend that alternate sites have been inadequately considered (Third Prehearing Conference Order, ¶¶ 5, 13, 27, 30, 35, 60).

227. Applicants and Staff collectively have considered 19 sites as possible alternatives to the Seabrook Site. Of this number those selected as being preferred potential alternates to Seabrook were the Litchfield Site, the Rollins Farm Site, the Gerrish Island Site, and the Moore Pond Site. (Applicants' Testimony, post Tr. 10162, pp. 29-35; FES, pp. 9-4 to 9-10; Staff Testimony, post Tr. 10284)

228. The advantages and disadvantages of these sites relative to the Seabrook Site are summarized below:

I. Litchfield

A. Advantages

1. Less Miles of Transmission Lines.
   The Litchfield Site would require about 37 miles of 345 KV line compared to the Seabrook requirement of 86 miles.
2. Less Cooling Water Requirements.
   The two nuclear units with cooling towers would require make-up of about 30,000 gpm as compared with the once-through cooling requirements of 780,000 gpm at the Seabrook Site.
3. Small Impact on Biota.
   Since the cooling water requirements are an order of magnitude less than at the Seabrook Site the potential for impact of both the intake and the thermal discharge should be less at the Litchfield Site.

B. Disadvantages

1. The site as proposed is located on a flood plain. This would result in increased safety-related costs. If dikes were required for safety reasons, a choking effect on the river could result during floods.
2. Population.
   There is a population of approximately 140,000 in a ten-mile

radius of the site, approximately twice the population for the same area for the Seabrook Site (72,000).

3. Consumptive Water Uses.
   The consumptive use of water would be larger than at the Seabrook Site.
4. Cooling Tower Costs.
   The cost for cooling towers would be approximately comparable to the once-through-cooling cost at the Seabrook Site. If the cooling towers were moved out of the flood plain, as might be required, additional costs would accrue.
5. Cooling Tower Impacts.
   The impacts commonly associated with cooling towers, drift, fogging, and icing would be present to some degree.
6. Loss of Farmland Productivity.
   The Litchfield Site is composed to a large extent of productive farmland. This is to be compared to the Seabrook Site which is not an area where farming is carried on.
7. Proximity to Manchester Airport may require hardening of design.
8. Aesthetics.
   Cooling towers would have an aesthetic impact because of the size of the towers required and other typical characteristics such as frequent plumes.
9. Diversion Requirements.
   The site would require consumptive use of Merrimack River water. Present plans indicate that the Merrimack River will be a major source of domestic water supply (Er, §9.2.3.2). Use of water by a power plant would limit such usage to some degree.

II. Rollins Farm

A. Advantages

1. Less Miles of Transmission Lines.
   Proximity of the site to the Newington Substation indicates that less miles of transmission lines would be required than at the Seabrook Site.
2. Lesser Cooling Water Requirements.
   It appears that once-through cooling would not be acceptable at the site. Under this assumption, the Rollins Farm Site would require a cooling water make-up of about 30,000 gpm. This is to be compared with the 780,000 gpm required at Seabrook.
3. Small Impact on Biota.
   The intake and outfall at this site would be in an estuarian

system and, therefore, the potential for damage would be dependent on dilution patterns, intake design, etc.

B. Disadvantages

1. Safety costs related to Pease Air Force Base.
   The site is approximately 9,000 feet from the Pease AFB runway. Hardening of the design would increase cost. If cooling towers were required the impact of the station on operations of the airfield would be even more severe.
2. Cooling Tower Impacts.
   The impacts commonly associated with cooling towers such as icing, drift, and fog would be present to some degree. Such impacts would be more critical because of the proximity to Pease AFB.
3. Population.
   The reactor at the site would be 2-1/2 miles from the area of dense population (City of Portsmouth). The population within a 10-mile radius would be approximately 100,000.
4. Consumptive Use of Water.
   The site would have a lesser requirement for cooling water but would consumptively use more water than would be used at the Seabrook Site.

III. Moore Pond

A. Advantages

1. Population.
   The population within a ten-mile radius of the site is 12,000, significantly lower than the 72,000 for Seabrook.
2. Aquatic Impact.
   Based on the large differences in cooling water requirements for a once-through (Seabrook) and a closed-cycle system of condenser cooling, the site has a lesser potential for aquatic impact.

B. Disadvantages

1. Length of Transmission Lines.
   The site would require approximately 450 miles of transmission line as compared with the Seabrook Site requirement of about 86 miles. The area that would be traversed includes major recreational areas (ER, pp. 9.2-30) and the required transmission corridors potentially would impinge on these areas.
2. Construction Force Costs (Economic & Social).
   The site is relatively remote from large cities, and construction at this site would require importation of large numbers of

workers, tending to increase labor costs and also create significant social impacts on the communities surrounding the site.

3. Cooling Tower Impacts.
The site would require a closed-cycle cooling system, and the impacts attendant to cooling tower usage would occur. These include icing, fogging, drift, and aesthetic impact.

4. Increased Consumptive Water Usage.
The consumptive use of water may be substantial in view of other uses and requirements downstream of the site.

5. Transportation Access.
Road access to the Moore Pond Site is good but rail access would be very difficult. Fabrication of the reactor vessel onsite probably would be necessary.

6. Power Loss From Long Transmission Lines.
The site is remote from the large energy-using centers and long transmission lines would be required (see 1 above). Such long lines would result in a power penalty because of increased transmission losses.

IV. Gerrish Island

A. Advantages

1. Population.
The site has a population of about 56,400 in a ten-mile radius of the site whereas the Seabrook Site has 72,000. The Gerrish Island Site has less transient population.

2. Biotic Impact.
The site with once-through cooling may have less potential for aquatic impact than at the Seabrook Site. This is based partly on the presence of the salt marsh at Seabrook and the potential indirect effects of the nuclear plant on it.

3. Less Tunnelling Costs.
Because the location of the reactor at the Gerrish Island Site could be closer to the offshore intake and outfall, tunnel costs, if tunnelling were necessary, would be less.

B. Disadvantages.

1. Construction Access.
Transportation access to the site would be poor. Railroad access would require approximately 6 miles of new track and several bridges. Access by road would require extensive building or rebuilding of several miles of road and several bridges.

2. Closeness to Population Center.
The site is within 14,000 feet of the corporate boundaries of

Portsmouth, N.H., (1970 population of 25,717) and is in Kittery, Me. (Population 11,028).

3. Length of Transmission Lines.
The site would require 133 miles of transmission lines as compared with the Seabrook requirement of 86 miles.

4. Difficulty of Access for Transmission Lines.
Unless sufficient right-of-way through a fairly populous area could be purchased, undergrounding would be required.

5. Terrestrial Impact.
A portion of Gerrish Island is at present a park. Construction of a nuclear facility would impact on the historic, scenic and recreational uses of the island.

6. Social Impact.
At present the only access to Gerrish Island is by way of several small winding roads passing through congested residential areas. Construction traffic would create a major impact on these roads and on the residents.

7. Difficulty in Obtaining Site.
The only method by which the Applicants might obtain the site at present is by purchase from a private individual. The owner has refused to sell and Applicants are advised that Maine law does not permit condemnation for generation sites.

229. Considering the foregoing it appears that the Litchfield Site, on balance, is superior to the other alternative sites that were evaluated.

Based on the consideration of alternative sites and the entire record, the Board finds that there has been adequate consideration of alternative sites and that none of the alternatives are preferred over the Seabrook Site.

**P. Final Cost-Benefit Analyses**

Intervenors State and NECNP contend that the Applicants' cost-benefit analysis is incorrect because of underevaluated costs, overstated benefits, insufficient data, and improper methodology (Third Prehearing Conference Order, ¶¶26, 51).

230. The FES notes the unavoidable adverse environmental effects of construction and operation of the proposed facility both with respect to the terrestrial and aquatic milieu (FES, p. 10-1) and discusses the relationship between short-term uses and long-term productivity (FES, p. 10-1, 10-2). The resources which will be used almost exclusively for the production of electrical energy during the anticipated life span of the facility will be the land itself and the fuel consumed, with approximately 715 acres of the site committed to the production of electrical energy for the next thirty to forty years (FES, p. 10-1). Some

slight deterioration of water and air quality will occur due to station effluents (FES, p. 10-1). When the Seabrook Station becomes obsolete and is closed, many of the disturbances to the environment will cease and a rebalancing of the ecosystem will occur (FES, p. 10-1). Recent experience with other nuclear reactors has demonstrated the feasibility of decommissioning and dismantling such a plant sufficiently to restore the site to a reasonable facsimile of its former use (FES, p. 10-1). The Board, based on Staff's analysis and description of the short-term uses of the environment contained throughout the body of the FES, agrees with the Staff's assessment that the benefits derived from the Station in serving the electrical needs of the area outweigh the short-term uses of the environment in the vicinity of the station.

231. The major resources to be committed irreversibly and irretrievably by the construction and operation of Seabrook are the land used for the site during the lifetime of the station, subject to the degree of decommissioning, and the uranium consumed in generating electricity (FES, p. 10-2). Another principal potentially adverse effect resulting from operation of the facility would be that of entrainment of micro-organisms in the condenser cooling system, and in particular the larvae of the soft-shelled clam and the lobster. Both the Staff and the Applicants estimate the entrained larvae to be, in fact, a small percentage of the population of larvae in the waters within about 2.5 miles of the shore.

232. It is the consensus of expert testimony that the adverse impact of entrainment in the condenser cooling system would not be significant.

233. Table 10.2 of the FES deals with impact of the construction and operation of the proposed Seabrook Facility, including associated transmission line routing, on land use, terrestrial ecological impact and aquatic ecological impact, radiological effects and air quality (FES, pp. 10-5, 10-6). Where the impact is capable of meaningful quantification it has been quantified in Table 10.2 (Tr. 11621). Table 10.2 also contains a qualitative judgment of the impact in each given area (Tr. 11621). As modified herein, the Board adopts Table 10.2 of the FES as a reasonable summary of the unavoidable environmental impacts.

234. The FES also contains an estimate of energy generating costs for the proposed Seabrook Facility. These estimates were updated in Staff's testimony on alternate energy sources (Tr. 7330, p. 14, Tr. 11560), to reflect a re-analysis of both capital and operational costs by rerunning the computer program CONCEPT.[33] This program has been developed to check capital cost, estimates for

[33] The CONCEPT code was developed as part of the program analysis activities of the AEC Division of Reactor Research and Development, and was designed primarily for use in examining average trends in costs, identifying important elements in the cost structure, determining sensitivity to technical and economic factors, and providing reasonable long-range providing of costs. For a discussion of it and its application see Appendix A to Staff Testimony, post Tr. 11539.

proposed nuclear stations, and for fossil-fired alternatives (Staff Testimony, post Tr. 11539, p. 1-2). The recent estimates take into account increases in escalation rates as compared to those for the evaluation in the FES. The Board has reviewed the assumptions and methodology involved in the CONCEPT code and finds that the CONCEPT code constitutes an effective method of producing reasonable capital and operating cost estimates for a nuclear facility, as well as an effective method of producing reasonable cost estimates for fossil units.

235. The Board finds that the capital, operating, and total cost estimates of the Seabrook Facility of both the Staff and Applicants are reasonable.

236. The construction of the facility will cause some inconvenience to the people in the Town of Seabrook because of the increased commuter traffic and use of some municipal facilities. This cost will be compensated to some extent by increased taxes from the facility. Station operation should cause only minor inconvenience to local residents, while the increased tax base of the community may have a major effect on the community.

237. Construction of the station and transmission lines will cause damage to the aquatic and terrestrial biota. This should not result in the significant disturbance of any major ecosystem especially in view of this Board's holding that the Applicants utilize the Staff's minimum circumference dogleg around the Pow Wow River-Cedar Swamp Natural Area.

238. Staff concluded that the benefits from the Seabrook Station will outweigh the costs and, furthermore, that the distribution of costs and benefits do not place unreasonable costs on any segment of the population. Staff's conclusions respecting the final cost-benefit analysis have not been changed by the updated costs from the CONCEPT code (Tr. 11539, p. 2) nor from the additional costs due to the increased length of the intake tunnel. Staff's cost-benefit analysis was also updated to take into account the impact of the Commission's Table S.3 "Summary of Environmental Considerations for Uranium Fuel Cycle" (10 CFR §51.20, Table S.3) and Table S.4 which resulted from the Commission's rulemaking hearing on the "Environmental Effects of Transportation of Radioactive Materials to and from Nuclear Plants" (40 *Federal Register* 1005, January 6, 1975)(10 CFR §51.20, Table S.4)(post Tr. 11539, p. 1). Staff's conclusions were not changed as a result of considering the impact of the environmental costs of the uranium cycle and of the transportation of radioactive materials reflected in Tables S.3 and S.4 (*Id.*).

239. The Board believes that the methodology employed by the Staff in its cost-benefit analysis and the judgmental factors used by the Staff are reasonable. The Board also believes that the Staff estimates regarding both the environmental and monetary costs for the proposed Seabrook Facility are reasonable and that the Staff's weighing of the costs against the benefits of the proposed Seabrook Facility was properly performed.

240. In summary the economic and environmental costs resulting from construction and operation of the facility are:

(a) Construction costs including transmission will be in the area of $1,600,000,000;

(b) About 45 acres of land will be devoted essentially permanently to station use and an additional 80 acres will be disturbed during construction. In addition, some 1,200-1,400 acres of transmission rights-of-way will be required which will be restricted in use for the life of the unit;

(c) A visual intrusion will be imposed upon the Cedar Swamp and Packer Bog areas by the transmission lines;

(d) Operation of the plant will cause adverse effects by virtue of entrainment and entrapment of organisms in the water off the Hampton-Seabrook beaches;

(e) Nuclear fuel will be consumed;

(f) A small amount of radiation will be received by the population surrounding the site calculated to be 14 man-rem per year to the population within a 50-mile radius as opposed to 420,000 man-rem now being received by this population by virtue of natural background radiation.

The benefits from construction and operation of the facility are principally:

(a) If demand for electricity should increase as forecasted by the Applicants, the facility will be available to supply needed power and to assure reliability of the NEPOOL system;

(b) If demand does not increase as forecasted by the Applicants, the facility will be available to substitute for fossil fuels. In this regard, there will be an economic benefit from the use of less expensive nuclear generating capacity, and there will be a saving of the more versatile fossil fuels;

(c) Should oil in particular become unavailable, the facility would be needed whether or not demand for electricity increases as forecasted by the Applicants;

(d) Local benefits will include provision of about 9,050 man-years of employment during construction, jobs for 150 employees during operation, and generation of about 4.5 million dollars of taxes annually for the State of New Hampshire and the Town of Seabrook (see FES, Table 10.1, p. 10-4).

241. Based upon all the evidence presented, the Board finds that the environmental and economic benefits from the construction and operation of the facility will be greater than the environmental and economic costs incurred. Therefore, the Board finds that the balance between the benefits and costs involved in the proposed action favors granting the construction permits for the facility. Further, considering the final balance among conflicting environmental factors set out in the record of this proceeding, the Board finds that the appropriate action to be taken is to authorize the granting of the construction permits, with appropriate conditions for the protection of the environment.

## III. CONCLUSIONS OF LAW

1. The Board's authority in this proceeding is based on the Commission's Notice of Hearing, on the statutory authority of the Atomic Energy Act of 1954, as amended, on the statutory authority of NEPA, and on the Commission's Regulations governing the licensing of production and operation facilities 10 CFR Part 50.

2. In view of the issues in controversy raised by the intervention herein, this is a contested proceeding within the meaning of 10 CFR §2.4(n).

3. As a contested proceeding, the Board decisional responsibility is as specified in 10 CFR §2.104(b)(1) and (3) and in 10 CFR Part 51.52.[34]

4. The radioactive releases and the direct radiation from the facility and the site must comply with the Commission's Regulations in 10 CFR Parts 20 and 50 and particularly with Appendix I of 10 CFR Part 50.

5. Under §511(C)(2)(A) of the Federal Water Pollution Control Act of 1972, as amended (FWPCA), this Board is precluded, in conducting its review of the proposed facility under NEPA, from reviewing any effluent limitation or other requirement established pursuant to the FWPCA or the adequacy of any certification issued under Section 401 of the FWPCA. As a corollary to this, the FWPCA precludes this Board from imposing upon the Applicants any effluent limitations other than those established pursuant to the FWPCA. Accordingly, this Board must analyze the aquatic impacts of the Applicants once-through cooling system as designed and located pursuant to the § 401 certification of the State of New Hampshire issued October 9, 1975.

6. EPA Determinations under Section 316(a) of FWPCA which grant Seabrook an exemption from that Act's requirement of closed-cycle cooling and Section 316(b) which approve the Applicants' proposed location and design of the intake structure, are presently appealed by Intervenors SAPL and Ross before the Regional Administrator of EPA (*supra*).

It is conceivable that EPA could require closed-cycle cooling for Seabrook as a result of the aforementioned appellate process before the EPA.

Should EPA require closed-cycle cooling for Seabrook, this Board finds such a requirement to be unacceptable for the Seabrook Site and, accordingly, in this eventuality, denies the application herein.

7. The FES, as modified herein, must comply with the requirements of 10 CFR Part 51.

## IV. SUPPORTING OPINION

In this portion of the Initial Decision, the Board will provide a memo-

[34] 10 CFR Part 51.52 became effective August 19, 1974, (39 F.R. 26279) and supersedes former 10 CFR Part 50, Appendix D, Paragraph A.11.

randum opinion to discuss and support certain of its Findings of Fact, Conclusions of Law, and other rulings made in this proceeding.

**A. Proposed Findings of Fact and Conclusions of Law**

Any proposed findings of fact or conclusions of law submitted by the parties hereto, which are not incorporated directly or inferentially into this Initial Decision, are herewith rejected as being unsupportable in law or fact, or as being unnecessary to the rendering of this Initial Decision.

As to those contested issues which the Intervenors presented no direct testimony nor conducted cross-examination of the Applicants' and/or Staff's witnesses, the Board rules that the Intervenors have failed to controvert the evidence of the Applicants and the Staff.

All requests for transcript corrections not heretofore granted are hereby granted.

**B. Limited Appearnaces**

Requests for limited appearances were made by a number of persons who either submitted statements in writing or made oral statements on the record at the evidentiary hearing. All pertinent questions raised by persons making limited appearances were adequately answered by the evidence presented by the parties to this proceeding. (10 CFR Part 2, Appendix A, Paragraph V(G)(4)

**C. Financial Qualifications**

The controversy over financial qualifications of the Applicants was centered on the question as to the ability of PSCO to raise 800 odd millions of dollars to finance its share of Seabrook. It was pointed out that financing of Seabrook would require an amount approximately twice the total assets of PSCO at December 31, 1974. It was further pointed out that in the prior eight-year period 1967-1974 PSCO raised capital equal to 167% of its assets as of December 31, 1966. (Applicants' Testimony, post Tr. 1177) However, during that period PSCO's bond rating, by Moody's, was A and in February 1974, PSCO's rating was reduced to Baa. Furthermore, along with that of many other utilities, PSCO's common stock declined during the past two years to substantially below book value. It is also a fact that PSCO was involved at the same time in an extended rate proceeding. Following the outcome of that proceeding PSCO's earnings, as noted eariler, began to improve.

During the past two years or so an unusual combination of tight money, recession, inflation, and the energy crisis which resulted in rapidly rising costs of

fuel and other expenses have adversely affected utilities' ability to raise funds for all purposes, including funds for new plants.

The financial health of utilities, and their ability to raise funds, depends on a number of factors among which the more important are the volume of sales, rates, and capital structure. During the past year rate increases for utilities generally have been steadily granted and as the recession diminishes sales increase to some extent, thus improving the utilities' financial health (Tr. 1725-32; Tr. 1737-38)

In the Board's view the preponderance of the expert testimony in this case is that the necessary funds will be forthcoming from the market although the cost of money may be higher than originally projected by PSCO.

**D. Organization and Management**

While the Board has found that PSCO and its contractors are technically qualified to design and construct the facility, it feels that a few remarks concerning the understanding of and planning for operation of the facility are in order. The basis for these remarks is that the Board considers it important that management's understanding with respect to principles of administration and operation and its plans to prepare itself and the company be clear at the construction permit stage.

The Board inquired into management's views and understanding of these matters generally, and specifically in regard to procedural systems and technical review and surveillance (Tr. 4069-4210).

PSCO has contracted with Yankee Atomic Electric Company (YAEC) for technical support services in operation of the plant, and considers the Nuclear Services Division of YAEC to be effectively a part of its engineering staff. In addition, PSCO plans to augment its headquarters engineering staff with a number of nuclear engineers and fuel management personnel. While this augmentation should be of substantial benefit to PSCO, the Board considers that, since PSCO will be embarking on operation of a nuclear plant for the first time, the participation of YAEC is essential. The success of the arrangement, however , in promoting and realizing safety of operation will depend upon clear delineation of lines of authority and allocation of responsibility among PSCO management and headquarters groups, YAEC, and the plant operating organization. While PSCO management described the arrangement in general terms, additional attention by PSCO to the necessities of administrative and procedural systems is warranted.

In commenting on this point the Licensing Board in Niagara Mohawk Power Corporation (Nine Mile Point, Unit 2), RAI-74-6, p. 1046, June 1974, at p. 1071 noted that:

the safety of operation of a nuclear power plant depends vitally on the

people associated with the operation. Specifically, the operation of a large and complex plant requires an organization including people representing a wide range of talents, and the success of such an operation rests on the ability of top management to create and maintain a uniform and affirmative attitude toward safety, to allocate authority and responsibility, and to assure, through full understanding and administrative attention, that the several groups and talents contribute effectively to safety of operation.

Technical and practical knowledge concerning the complex processes and their significance to safety is of no avail unless the man operating the reactor has the necessary information. This man has to obtain and use this knowledge through written procedures. The technical adequacy and soundness of these procedures has to be the responsibility of technical personnel, meaning that their input to procedure and their review and approval to procedure are necessary ingredients to safety of operation. In addition, continuing surveillance, by technical personnel, of both equipment and procedure is necessary to provide a basis for evaluation of procedure and to identify, understand, and remedy abnormal conditions and to prevent serious and unsafe conditions.

PSCO management also described its concept of operating procedures. While PSCO states that detailed written procedures are necessary, the Board's impression is that PSCO appears to be willing to rely more heavily on the judgment and response of individual operators than seems warranted. (Tr. 4132-46; 4158-60) In this connection the Board in Niagara Mohawk, *supra,* noted at p. 1073:

> The Board's interest in this point is that the importance of sound written procedures becomes clear from the fact that no one person, e.g., the operator at the controls, can be expected to acquire and apply in a timely fashion all knowledge of the process at all times and under all conditions. Furthermore, a process operated 24 hours a day requires consistency of action by operators, independently of which operator is on duty.
>
> It follows that carefully devised detailed procedures, duly reviewed for both technical and practical adequacy, and authorized by responsible supervision, are of utmost necessity and must be followed fully if safe operation is to be realized.

The Board is persuaded of the interest, intent, and ultimate capability of PSCO management to properly organize and manage the PSCO-YAEC operation. To develop and maintain that capability will require continuous involvement of management in all matters concerning organization and the functioning of the

several organizational units. The foregoing comments on the specific topics discussed are offered for assistance to PSCO in further development of their operating philosophy, and in their detailed planning to meet the vital objective of maximum safety in operation.

**E. The Seismic Issue**

With regard to the determination of the Safe Shutdown Earthquake there are a number of factors to be considered. Intervenors maintain that the selection of intensity VIII for the 1755 Cape Ann earthquake is inappropriate. It was brought out that in Smith's catalogue of earthquakes, he listed the 1755 event as intensity IX. It appears though that his principal basis for the selection of intensity IX was a report from one ship about 200 miles at sea (off the New England coast) that people on board felt as though they had run aground. However, the Staff associates this description with intensity 4 on the Rudolph Scale of sea intensities, which would indicate that the ship was not in the immediate vicinity of the epicenter. (Tr. 3035-40)

In addition the Staff has developed a relation between the size (intensity) of an earthquake and the area over which it is felt. The Staff utilized data from U.S. Department of Commerce (U.S. Earthquakes 1928-70) in evaluating the constants in its equation. A plot of this equation is shown in Figure 1, Staff testimony following Tr. 2812. According to this figure, an earthquake of intensity VIII would show a radius of perceptibility of well over 500 miles. Using the Applicants' isoseismal data for the 1755 event, and adding 20% to the radius for conservatism, the Staff estimates the epicentral intensity of the event to have been 7.3 ± 0.6 at the 80% confidence level. Coffman and von Hake (1973), following Epply (1965) list the 1755 event as intensity VIII. Thus, the Staff's conclusion would appear to be consistent with that of the Applicant and of Coffman and von Hake.

Intervenors also contend that the Boston-Ottawa seismic belt is associated with geologic structure, and that earthquake intensity greater than that of historical record should therefore be assigned as the design criterion. The record shows, however, that it has not been possible to associate specific earthquake epicenters in New England with specific tectonic structures. (Tr. 11917-18)

The Montreal earthquake of 1732 also was examined. This event was classified by Smith as intensity IX.[35] The Staff accepts this evaluation of that earthquake, although it appears that the felt area (area of perceptibility) would be more appropriate to intensity VIII. (Tr. 11892) However, it was brought out

[35] There is no evidence in the record that this earthquake is correlated with or occurred in recognition of the birth of one George Washington.

repeatedly by the Staff that the Montreal event is in the northwest cluster of the Boston-Ottawa seismic belt. Since the northwest and southeast clusters are separated by the gap in seismic activity related apparently to the Green Mountain anticlinorium, consideration of the Montreal earthquake (1732) is unnecessary.

NECNP's witness Chinnery suggets that the probability of an intensity IX earthquake in the Boston-New Hampshire area lies somewhere between 0 and about $10^{-3}$ per year. He bases this estimate on a plot of frequency versus intensity for historical earthquakes in New England, and comparison of this plot with those for the Mississippi Valley and the southeastern United States. (NECNP Ex. 10) The Staff also has made this kind of study and estimates the probability of an intensity VIII being exceeded as about $10^{-4}$ per year. Further, the Staff points out that this probabilistic theory is based on the assumption that there is no upper limit to the size or intensity of earthquakes. (Tr. 11933-34)

On the other hand, Newmark holds that the relation between intensity and ground acceleration is non-linear beyond about intensity VIII. He also suggests an asymptotic limit of about 0.5 for the *median* value of maximum ground acceleration, and about 2.5 to 3.0 feet/second for the *median* value of ground velocity. (Tr. 3002-06; Newmark Testimony, post Tr. 2813, p. 5)

With regard to Chinnery's work, it appears not to be based on geologic grounds. Although Chinnery mentions that South Carolina has a similar tectonic environment to that of New England, the record of this case does not show a convincing basis for that statement. All things considered, it appears to this Board that the statistical basis for prediction of frequency of earthquakes is not yet at a stage upon which to base a firm finding.

Turning now to the selection of the appropriate ground acceleration criterion for a specific MM intensity, the major difference in view between Intervenors and the Staff and Applicants is that Intervenors' witness Trifunac prefers to assign as the "reasonable upper bound" for maximum ground-acceleration the statistical mean plus one standard deviation, where the Staff prefers to use the mean of the data.

To relate ground acceleration with earthquake intensity is extremely difficult. Earthquake intensity scales are designed to describe the effects of earthquakes on man, structures, and their surroundings. They are subjective and qualitative in nature. To illustrate, intensity scales are framed in terms of broken dishes, cracked windows, damaged buildings, landslides, etc. These effects are clearly sensitive to the nature of the materials, the design of the structures, the characteristics of foundations, and local geology. However, the intensity scales, being totally descriptive, ignore these important considerations. While many measurements of ground motion have been made in the past forty years, relatively few data are yet available for earthquakes of intensity greater than

about VII. As Trifunac points out, while "the mean trends of the peak values of strong ground motion increase exponentially with respect to earthquake intensity, the observed scatter of data is so large that one peak estimate of a ground motion amplitude could be associated with several different intensity levels." (NECNP Ex. 8, p. 11) Such is the difficulty of correlating descriptive data with measured data.

It is important to note at this point that the response of a structure to earthquake stimuli is a function not only of acceleration but of ground velocity, ground displacement, frequency of vibration, and the characteristics of the structure itself.

With specific regard to acceleration, the peak value as measured by strong motion instruments located on soil or rock is modified when applied to a large and heavy structure. The interaction between the structure and rock, or soil, is such that the effective acceleration may be 25 to 30 percent less than the actual maximum acceleration. Therefore, it is reasonable to base a response spectrum for design at a value somewhat lower than the maximum expected instrument measurement for the same vicinity. (Newmark Testimony, post Tr. 2813, p. 7)

Trifunac suggests that, on the basis of his analysis, 0.4g should be assigned as a "reasonable upper bound" i.e., the mean plus one standard deviation, for the horizontal acceleration of an intensity VIII earthquake.[36] His data are derived from some 187 records of 57 strong earthquakes in the western United States. Table III of the Appendix to his testimony shows expected (mean) values of acceleration, velocity, and displacement, and the numbers of data points used in the determinations. Table V of his Appendix shows values for intensities V, VI, and VII for various foundations (soil characteristics), soft, medium, and hard. These Tables, particularly Table III, generally agree with Newmark's estimates. (Tr. 3059-60) However, there are apparently no data available for intensity VIII on rock, although Table V suggests a definite increase in acceleration, on rock, with intensity. On the other hand, velocity and displacement appear, for a given intensity, to be less on rock than on less firm foundations. In this connection, it is of interest to note that Newmark prefers to consider both ground acceleration and ground velocity in his evaluation of earthquake characteristics and in applying them to the design of a structure (Tr. 3059), and the Board infers that Trifunac agrees, at least in principle (Tr. 3155).

In considering all factors to be taken into account in designing a structure for resistance to earthquakes, Newmark notes that "it is desirable to recognize at the outset that no absolute upper bound can be selected for all the design parameters, nor is it desirable to do so. In the first place, the compounding of the various factors of safety in such a process would lead to impossible require-

[36] Experience shows that the maximum vertical acceleration is generally about two thirds as great as the horizontal acceleration.

ments that would preclude the building of any structure. However, another factor involves the interaction between the various functions that a structure must perform. Making it unduly strong and, therefore, unduly stiff may make it impossible for the structure to perform its other functions. On the other hand, it is possible to select the several design parameters with a reasonable degree of conservatism for each of them in such a way that an acceptably small probability of damage will result. In the design procedures now used for nuclear reactors, it is believed that this small probability is indeed vanishingly small when one considers all the parameters that are involved. An overemphasis on any one parameter is not only unnecessary but undesirable as well." (Newmark Testimony, p. 2)

Newmark goes on to note that the SSE is only an index value, and that it is *not* intended to be the most extreme motion that could ever occur in a region (Tr. 3030).

With regard to the conservatisms that are incorporated in the design of a nuclear power plant, they can be described generally as (a) generation of a conservative artificial time history, (b) conservatively chosen damping factors, (c) nonlinear responses of structures and equipment are not taken into account, (d) effect of mass in equipment in reducing response. These factors collectively suggest an overall margin of the order 50%, meaning that a plant designed for a zero period acceleration of 0.25g should be capable of withstanding an earthquake producing the same general response spectrum and of peak acceleration about 0.4g. For a near earthquake of short duration the plant should withstand even higher accelerations. Finally, the design of nuclear plants takes into account three dimensional ground motion, for which other structures generally are not designed at present. (Tr. 3024-30, 2993; Newmark Testimony, post Tr. 2813, pp. 6-8)

Newmark and Trifunac appear to agree that higher accelerations are to be expected on rock foundations than on alluvium, particularly for intensities greater than VI or VII. In addition rock foundations exhibit higher frequencies of motion than does alluvium. The response of structures to peak accelerations of high frequency and short duration (the peak acceleration in an earthquake is generally of short duration) has shown that in general they can withstand substantially higher accelerations than those for which they were designed. (Tr. 2837; 3024)

Based on the record and foregoing discussion the Board concluded that an adequate basis exists for the Staff's choice of 0.25g as the design criterion for the Seabrook Plant.

**F. The Evacuation Issue**

The central question raised by Intervenors is whether an evacuation plan for the area outside the LPZ, specifically the beach area, is necessary.

So far as licensing proceedings are concerned the question appears to be without precedent. It, therefore, calls for examination of the facts relating to consequences of accidents, and of the meaning of the Commission's Regulations.

The consequences of accidents have been mentioned briefly in paragraphs 50 through 55 but some discussion of the meaning of these and other factors related to the evacuation issue appear to be in order.

It has been noted that the doses reasonably to be expected in the event of a design basis accident range from the order of to substantially less than those suggested in the several PAG's as warranting consideration of evacuation. So far as this Board is aware, study of the potential doses resulting from design basis accidents as a function of distance, direction, time, and various parameters related to the accident and the weather, has not been made previously. For this reason the Board requested the Applicants and Staff to prepare the information contained in Applicants' LOCA report (post Tr. 3367, as corrected Tr. 3365-66, 4420, and supplemented Tr. 4894-99) and Staff Tables (post Tr. 4404). This and related matters were the subject of some discussion and examination (Tr. 4501-43, 4598-4687).

First, the "conservative" and "realistic" source terms were examined. As was noted earlier (paragraph 54) the "conservative" source term is that used by the Staff in its evaluation of site suitability, and it is defined in Regulatory Guide 1.4 as 100 percent of the radioactive noble gases and 25 percent of the radioactive iodine in the reactor core at the onset of the accident.

These quantities of fission products are assumed to appear instantaneously in the containment and available for leakage to the environment at the assumed instantaneous occurrence of the (LOCA) accident. To produce such quantities the Staff holds that either of two conditions would have to occur, (a) substantial melting of the core, or (b) the core (fuel) be held at a high temperature, in the order of 3,000°F, for several hours. In order that either of the conditions occur, the ECCS performance must be substantially degraded,[37] that is, of the two independent ECCS trains (systems) one would have to suffer total failure and the other would have to perform in a substantially degraded fashion. The Staff holds, and this Board agrees, that the "conservative" source term is possible, but that such an event is very remote. One must keep in mind too that the probability of the postulated LOCA is itself very low, so that the combined probability that a LOCA occurs and that the ECCS simultaneously performs in a very substantially degraded fashion is very low indeed.[38]

Turning for a moment to the Staff's "realistic" source term, this is assumed to be composed of those fission products immediately available for transfer from

[37] The term "degraded" means that the ECCS does not perform as required by the ECCS performance criteria, 10 CFR 50, Appendix K.

[38] An accident of this nature is clearly in the so-called Class 9 category. See treatment of accidents in Environmental Statements.

the reactor core to the containment in the event of a LOCA, that is to say, the inventory of fission products that have diffused from the uranium dioxide (fuel) pellets into the space between the fuel and the cladding, *i.e.*, the "gap activity." This quantity at a state of equilibrium, *i.e.*, after long operation of the reactor at full power, is calculated by the Staff to be about 2% of the total inventory of the radioactive nuclides of the noble gases and of iodine in the reactor core. Here it is interesting to note that to realize this quantity of fission products in the containment would require the rupture of all the fuel rods (the cladding) in the core.[39]

In summary, the Staff's "conservative" source term appears properly to be appropriate to an accident of medium or mild severity in the category of Class 9, and the "realistic" source term may itself be "conservatively" realistic.

In regard to the assumptions concerning meteorological conditions, the Staff's view is that its treatment is, with respect to site suitability, conservative. In computing the doses expected at the perimeter of the LPZ, the Staff uses a technique that incorporates an unquantified conservatism in values for atmospheric diffusion, particularly for periods of the order 8 to 24 hours following an accident (Tr. 4621-24, 4656-57). This technique applies both to the 5 percentile (conservative) and to the 50 percentile (realistic) conditions.

A better view of the nature of the assumptions for both source term and meteorology may be had by examining and expanding the information in Staff's Tables I, II, and III (post Tr. 4404) and in Applicants' LOCA report post Tr. 3367, and as supplemented. In Tables 1 and 2 we have taken the Applicants' and Staff's estimates of doses at 1.5 miles and, using the multipliers supplied by the Staff (Tr. 4682-84), converted them to estimated doses at 2.0 miles and 3.0 miles for intervals of 0-8 hours and 0-24 hours. An adjustment of 20% upward has been made, after applying the multipliers, as suggested by the Staff. While the adjustment may not be wholly fair to the Applicants' figures, because Applicants' and Staff's meteorology cannot be fairly compared, the overall uncertainty in the calculations probably masks the adjustment.

However, Tables 1 and 2 suggest that the Staff's meteorology is indeed somewhat conservative; doses calculated by Staff's "realistic" (50%) meteorology are roughly comparable to those calculated with Applicants' 95% (empirical) meteorology.

The foregoing discussion of accident doses has had as its objective the realization of some perspective concerning the consequences of design basis accidents.[40] The study clearly was not exhaustive, and the uncertainties may be

[39] Because the analysis of the performance of the ECCS is conservative, Staff feels that substantially less than all the fuel cladding would rupture if the ECCS performs as expected (Tr. 4524, 4609).

[40] Only thyroid doses have been considered as they appear to be controlling with respect to consideration of evacuation.

substantial, but it appears to this Board to indicate the correct orders of magnitude of the doses reasonably to be expected in the beach area under the assumptions imposed. Except for the doses expected under "conservative" assumptions for both source term and meteorology, all the results clearly are within or well below the ranges of the several PAG's.[41]

If one accepts the foregoing statement, and this Board is of the opinion that the record supports it, then the question arises as to which assumptions are appropriate in considering the necessity, or lack thereof, for evacuation outside the LPZ.

Intervenors argue that the conservative assumptions regarding plant performance and meteorology, which are used in evaluating site suitability, are required for evaluation of the necessity for evacuation. It is argued further that in the Regulations only 10 CFR 100 includes any guidance for the proper assumptions to be used in determining accident consequences. This is true insofar as guideline doses at the exclusion area (site) boundary and at the perimeter of the LPZ are set out for use in site evaluation.

However, in consideration of the environmental impacts of accidents the Commission has said: "Class 8 events are those considered in safety analysis reports and AEC staff safety evaluations. They are used, together with highly conservative assumptions, as the design-basis events to establish the performance requirements of engineered safety features. The highly conservative assumptions and calculations used in AEC safety evaluations are not suitable for environmental risk evaluation, because their use would result in a substantial overestimate of the environmental risk. For this reason, Class 8 events shall be evaluated realistically."[42]

While it may be argued that evacuation is a safety issue and not an environmental (NEPA) issue, the Board feels that measures beyond the LPZ should be considered in light of the facts most likely to obtain. To compound conservatisms can be misleading, would present a distorted picture, and would be unfair to the public. Therefore, following the Commission guidance, this Board would conclude that upon consideration of the realistic consequences of design basis accidents, evacuation of persons beyond the perimeter of the LPZ would not be necessary. Indeed, the necessity for consideration of evacuation from within the LPZ would appear to be rather improbable.

With regard to accidents larger than those considered in safety evaluations it is clear that evacuation in the event of a Class 9 accident would be desirable, and

---

[41] This Board does not presume to judge the PAG's or their acceptability. It merely takes them as the considered opinions of responsible groups.

[42] Consideration of Accidents in Implementation of the National Environmental Policy Act of 1969, 36 F.R. 22851. This is proposed Annex A to Appendix D, 10 CFR 50, now 10 CFR 51, issued as interim guidance.

indeed in some cases necessary.[43] This Board recognizes that the potential consequences of such accidents form, at least in substantial part, the basis for State and local radiological emergency plans, and the Board is aware of and fully supports the Commission's policy of full cooperation with States in the development of such plans. However, this Board is not aware of Commission policy or regulation that mandates the preparation by a licensee of an evacuation plan, or other measures, for areas outside the LPZ. 10 CFR 100.3(b) in defining the LPZ speaks of "residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident." And it goes on to discuss "whether a specific number of people can, for example, be evacuated from a specific area . . ." Appendix E to 10 CFR 50 in discussing emergency plans only speaks of "measures to be taken in the event of an accident within and outside the site boundary . . ."

Considering the aforementioned Commission guidance, this Board is persuaded that 10 CFR 100 and Appendix E to 10 CFR 50 are intended to be consistent with each other. That being the case, Appendix E should not be read as requiring consideration by a licensee of protective measures beyond the LPZ, but that so far as design basis events are concerned, the several safety features in a plant should be credited with reasonable protection of populations outside the LPZ.

The foregoing discussion and conclusions support the Board's findings on the issue of evacuation. Moreover, the Board notes its belief that the information brought out in this case concerning the nature of nuclear power plants, and the consequences of accidents to those plants, is meaningful and in the public interest, and trusts that the information may provide, at least in part, a basis for further understanding of this complex subject.

## G. Alternative Plant Designs

Both Staff and Applicants analyzed and evaluated alternate cooling systems for the Seabrook Station (FES, §§5.5.2, 9.2.1, 11.9.2; ER, Section 10), and both concluded that once-through cooling is the preferable alternative for the Seabrook Site. Among the other cooling systems considered were natural-draft and mechanical-draft wet cooling towers, dry cooling towers, cooling ponds, and spray canals.

A spray canal was considered and rejected because of environmental effects of fogging, icing, and salt drift, although the economic cost would be comparable to that of the one-through cooling system.

The cooling pond method was rejected because of the large area required and of the impact on the salt marsh.

[43] See WASH-1400, Reactor Safety Study.

## TABLE I

### Thyroid Dose (REM)

"Conservative" Source Term; Hourly Meteorology (Summer 1972)

| | 1.5 miles | | | | | | 2.0 miles | | | | | | 3.0 miles | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 hours | | | 24 hours | | | 8 hours | | | 24 hours | | | 8 hours | | | 24 hours | | |
| | Max. | 95% | 50% | Max. | 95% | 50% | Max. | 95% | 50% | Max. | 95% | 50% | Max. | 95% | 50% | Max. | 95% | 50% |
| NE | 8.1 | 1.9 | 0.0 | 8.1 | 1.3 | 0.1 | 6.3 | 1.5 | 0.0 | 6.3 | 1.0 | 0.07 | 3.4 | 0.8 | 0.0 | 3.4 | 0.55 | 0.04 |
| ENE | 9.5 | 1.9 | 0.0 | 9.5 | 2.1 | 0.2 | 7.4 | 1.5 | 0.0 | 7.4 | 1.6 | 0.15 | 5.0 | 0.8 | 0.0 | 5.0 | 0.88 | 0.08 |
| E | 15.0 | 2.2 | 0.0 | 15.6 | 3.2 | 0.2 | 11.7 | 1.7 | 0.0 | 12.1 | 2.5 | 0.15 | 6.2 | 0.9 | 0.0 | 7.5 | 1.3 | 0.08 |
| ESE | 18.0 | 3.5 | 0.0 | 18.5 | 4.9 | 0.1 | 13.0 | 2.7 | 0.0 | 14.4 | 3.8 | 0.07 | 7.5 | 1.4 | 0.04 | 7.7 | 2.0 | 0.08 |
| SE | 9.6 | 1.1 | 0.0 | 9.6 | 1.5 | 0.0 | 7.5 | 0.8 | 0.0 | 7.5 | 1.1 | 0.0 | 4.0 | 0.46 | 0.0 | 4.0 | 0.6 | 0.0 |
| SSE | 11.0 | 0.1 | 0.0 | 11.0 | 0.3 | 0.0 | 8.5 | 0.07 | 0.0 | 8.5 | 0.23 | 0.0 | 4.6 | 0.04 | 0.0 | 4.6 | 0.1 | 0.0 |

NOTES:

1. Doses calculated with no consideration of transit time of plume.
2. "Conservative" assumptions for by-pass factor and filter efficiency.
3. Based on accidents occurring at each hour during a three-month period with meteorological characteristics represented by the hourly June through August 1972 meteorological data. This results in approximately 2,160 individual accident evaluations.
4. Doses at 1.5 miles multiplied by 0.65 and 0.35 for doses at 2.0 miles and 3.0 miles; 20% of these doses added per Staff suggestion.
5. To determine doses if "realistic" (gap activity) source term is assumed, divide all doses by 12.5.

## TABLE II

### Thyroid Dose (REM)

### Staff Calculations

| | 1.5 miles | | | | 2.0 miles | | | | 3.0 miles | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 hours | | 24 hours | | 8 hours | | 24 hours | | 8 hours | | 24 hours | |
| | *5%* | *50%* | *5%* | *50%* | *5%* | *50%* | *5%* | *50%* | *5%* | *50%* | *5%* | *50%* |
| "Conservative" source term | 64.0 | 3.0 | 95.0 | 5.0 | 50.0 | 2.4 | 74.0 | 3.8 | 27.0 | 1.25 | 40.0 | 2.1 |
| "Realistic" (gap activity) | 5.1 | 0.25 | 7.6 | 0.4 | 4.0 | 0.2 | 5.9 | 0.3 | 2.1 | 0.1 | 3.2 | 0.17 |

NOTES:
1. "Conservative" assumptions for by-pass factor and filter efficiency.
2. Doses at 1.5 miles multiplied by 0.65 and 0.35 for doses at 2.0 miles and 3.0 miles; 20% of these doses added per Staff suggestion.
3. Staff 5% meteorology equivalent to Applicant's 95% meteorology re Table I, i.e., both mean doses less than or equal to 95% of time.

Dry cooling towers were rejected for reasons of economics and relatively undeveloped technology for use in large plants.

Mechanical-draft cooling towers were rejected because of adverse environmental effects of icing, salt drift, fogging, noise, and visual impact.

Natural-draft cooling towers are superior to mechanical-draft towers in that fogging, salt drift, and noise effects near the ground are smaller. The advantages of the natural-draft tower are due primarily to its great height, about 500 feet, and to the fact that mechanical fans are not required.

About equal quantities of water would be required for both natural-draft and mechanical cooling towers, *i.e.*, approximately 120,000 gpm (FES, Table 11.6).

The use of natural-draft towers would reduce the impact of entrainment on aquatic biota by a factor of about 6 or 7, *i.e.*, the ratio of flow required by the once-through system to that for the cooling tower.

For the Seabrook Station, two towers would be required (one for each unit), each about 500 feet in diameter at its base and about 500 feet tall. In addition, intake and discharge tunnels of about 7 feet in diameter would be required, although the cost would be somewhat less than for the larger tunnels for the once-through system. It is estimated that natural-draft towers would cost about $60,000,000 more than the "original" once-through system (FES, Table 11.6) but this differential would be reduced by about $12,000,000 with the use of the new intake site (Applicants' Exs. 1a and 1b).

The use of tunnels for the cooling towers is required because the impact on the Hampton harbor, the marsh, and the estuary otherwise would be unacceptable. The Staff takes this view also (FES, 11.9.2).

Considering the cost, the major aesthetic impact, and other environmental impacts of the natural-draft towers, and the fact that the Seabrook Site was chosen originally because of the availability of the ocean for cooling water, this Board concludes that the use of natural-draft cooling towers is unacceptable. In short, the cost-benefit balance is in the Board's view unfavorable, and closed-cycle cooling of any type should not be employed for the Seabrook Station.

**H. Need for Power**

The combined effects of the "energy crisis" beginning late in 1973 and the recession of 1974-1975 have resulted in almost no growth in total use of electricity in the years 1974-1975 over that used in 1973. There appears to be no question that conservation measures employed by all classes of consumers have contributed significantly to reductions in consumption of electricity, although it is difficult to distinguish quantitatively between the effects of conservation and recession.

There is also some suggestion that rises in the price of electricity may have encouraged some reduction in use, but again further experience and analysis seem to be required in order to allow proper assessment of these effects.

These events have led to reassessment of load forecasts, and generally lowered estimates of growth in consumption of electricity in the future.

The techniques of load forecasting do not explicitly take into account recessions, except that in examining historic growth rates over relatively long periods of time the effects of recessions become effectively "averaged" into the composite growth rate.

When recessions such as that of 1974-1975 occur, the forecasts for those periods are usually quite wrong. Because it is not now possible to predict years in advance when recessions will occur, and because recessions are transitory in nature, it is felt that undue weight should not be accorded them in forecasts. (Tr. 11205)

Intervenors appear to argue that because forecasting techniques have resulted in substantial error during the period of the energy problem and the recession, they should not be relied on to justify the construction of the Seabrook Plant.[44] From this argument they conclude that funds should not be committed to construct Seabrook based on the Applicants' presently predicted demand for the early 1980's.

[44] In this and subsequent references to Intervenors' positions, see NECNP Supplemental Proposed Findings of Fact and Conclusions of Law, and Memorandum in Support, March 12, 1976.

From a slightly different approach they argue that since Applicants forecast a growth rate in New England, for the period 1970-1985, in the range of 4.7% to 5.9%, funds should be committed for nuclear plants based only on the lowest projected growth rate, and that fossil plants should be provided to meet demand in excess of the lowest projected level because of their shorter lead time.

Intervenors go on to note that, based on a growth rate of 4.7% as compared to NEPOOL's current forecast of 5.6%, the demand in 1985 would be about 1850 MW smaller. Coupling this with the premise that nuclear or other base capacity should be committed only for the minimum forecast growth they conclude that Seabrook is an unwarranted commitment at this time.

In still another vein, Intervenors note that if the NEPOOL forecast of 5.6% annual average growth is correct, and if Millstone 3 and Pilgrim 2 are installed on schedule, then Seabrook will not be needed until 1983-1984.[45]

In another approach, Intervenors assert that coal plants are more economical than nuclear plants, and that, therefore, the substitution theory is invalid.

Applicants recognize the several uncertainties attendant to forecasting of demand for electricity. While PSCO currently forecasts a growth rate of 7.3% in peak demand and about 7.4% in sales (kwh), it suggests a growth rate in the range of 5% to 9%. NEPOOL, while predicting a nominal growth of 5.6% for the next ten years, has analyzed the effects of growth rates ranging from 4% to 8%. It has concluded that at a 4% growth rate over the next decade the savings in fuel costs of the presently planned nuclear units approximate the carrying charges for these plants (Applicants' Ex. 43). Northeast Utilities, having re-scheduled Millstone 3 from 1979 to 1982 primarily because of an unusual development in its fuel supply situation, still estimates that in 1984 the cost of electricity from nuclear plants will be substantially less than from coal plants, and that its growth rate will be in excess of 4% (NECNP Ex. 22).

Furthermore, Applicants have pointed out that even if NEPOOL's planned nuclear plants are not needed until about 1990 to meet reliability criteria they would be economically advantageous (Tr. 11165-72). On this point, Intervenors argument that coal plants are preferable is based in large part on the assumption that nuclear plants will show a substantially lower capacity factor than will coal plants (NECNP Ex. 19, p. 7). While it is true that some nuclear plants have had poor capacity factors, some have performed well, and as they mature there seems to be little reason to expect their performance to be substantially different from that of coal plants.

In summary, Intervenors suggest several bases, some of which appear to be mutually exclusive, for postponing the construction of Seabrook or for not

[45] Millstone 3, now under construction, has been rescheduled from November 1979 to May 1982. Pilgrim 2 does not yet have a construction permit, but is scheduled for October 1982 (Applicants' Ex. 43).

building at all, namely (1) to minimize the economic exposure of the utility, (2) the load forecasts are incorrect, and the experience of the years 1974 and 1975 should be given greater weight in forecasts, (3) commitments for base load capacity in general and nuclear capacity in particular should be made only for the lowest growth rate in demand projected, and capacity for growth above the minimum should be of short lead time, (4) if NEPOOL's present 10-year forecast is correct Seabrook will not be needed until 1983-1984,[46] (5) coal plants are less expensive than nuclear plants.

Finally, Intervenors attack the "substitution theory" on the ground that Applicants should have to show that the total annual cost for generating nuclear power plus the total annual cost of capital on the idled non-nuclear capacity would be less than the total cost of generating electricity from the non-nuclear plant.

It seems to us that Intervenors have, at least in part, misinterpreted the full meaning of the substitution theory. Applicants have noted (1) that because of the uncertainties in both supply and price of oil, NEPOOL feels it necessary to increase its nuclear capacity from about 17% currently to about 50% of total capacity, (2) that should oil become scarce nuclear capacity would be available to meet demand. Of course, it is true that should demand remain constant, or grow at a very low rate, i.e., rather less than 4% over the next decade or so, and if oil remains in supply, then the need for nuclear capacity based solely on these considerations would decrease.

However, Intervenors have not explicitly recognized that the substitution theory rests primarily on the versatility of our natural resources of oil, coal, and natural gas, and the need to conserve these resources as best we can. In this connection, the Licensing Board in Niagara Mohawk, *supra*, at pp. 1083-84, remarked that:

> "It is obvious that the supply of fuels, both nuclear and fossil, is finite. The current 'crisis' has drawn attention to this point, and because petroleum and coal are versatile sources of both energy and of useful materials, it seems only reasonable that one should seek means to best utilize such supplies as are, or thought to be, available. Even a possible augmented supply of petroleum, for the present, from foreign sources should not cloud this objective.
>
> "It has already been noted that nuclear fuel is presently inferior in versatility, and it appears to this Board to be a useful substitute or perhaps even a necessary replacement for one or more of the fossil fuels during this generation."

[46] This Board found that Seabrook will be needed in the early to mid-1980's (¶ 201, *supra*) and does not feel that greater precision in forecasting is justified.

Applicants recognize the importance of the substitution theory in this respect (Tr. 11310-13), and this Board concludes that both Applicants' and NEPOOL's plans are consistent with the theory.

The Board has carefully considered Intervenors arguments and on the basis of the record does not find adequate support therefor. There are conflicting analyses and views in the record, and the Board has concluded that on balance the Applicants' case is persuasive. For the reasons stated in this opinion and in view of the entire record, this Board has concluded that the construction of the Seabrook Station is justified.

## I. NEPA Responsibilities

In accord with the requirements of 10 CFR 51 and with prior rulings of the Commission and the Appeal Board, we have fully considered and made findings on the broad issue of need for power and its sub-issues. Nevertheless, we wish to point out certain problems the Board finds with the nature of the issue and the difficulties that it imposes on parties and Licensing Boards.

First of all we suggest that the question of need, or lack thereof, for a specific power plant is, or should be, merely one small facet of an overall policy in regard to energy needs, resources, and considered allocation of resources to their best uses. There being no official national policy, or regional policies, with respect to energy and allocation of resources, the decisions of licensing boards in individual cases have, it seems to us, the effect of setting energy policy to a substantial degree. The question in our view is whether an individual licensing proceeding is the proper forum in which to decide an issue which is really national in scope.

In this connection we note with interest the following remarks of the Licensing Board in the Nine Mile Point 2 proceeding (*Niagara Mohawk Power Corporation*, RAI-74-6, AEC 7, 1074-75, 1974):

> In view of the complex issues involving the need for power and energy conservation, it is warranted to comment on the ramifications of the application of NEPA in these areas. Section 102(2)(C) of NEPA provides that a federal agency shall prepare a detailed statement on "alternatives to the proposed action" and Section 102(2)(D) states that federal agencies shall "study, develop, and describe appropriate alternatives to recommended course of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." In addition, Section 102 of NEPA has been interpreted as requiring the federal agency to weigh the economic and environmental costs against the economic and the environmental benefits of the proposed action in determining whether to go forward with the action. *Calvert Cliffs Coordinating Comm. v. AEC*, 449 F. 2d 1109 (D.C. Cir. 1971) This is the so-called cost-benefit analysis.

The need-for-power review in impact statements apparently became a general practice because meeting the rising demand for power could be used as a dominant factor in the cost-benefit analysis. The difficulty with this reasoning is that this benefit does not relate to the need for power from the specific plant but relates to the need for power on the company's system. In other words, establishment of a need for power on the system does not dictate that a particular type plant be used to meet the need. Moreover, if the utility fails to establish a need for power on its system, then the logical conclusion of the need-for-power rationale is that the construction permit should be denied. This, however, ignores the fact that there may be other valid reasons for construction, such as generating costs, availability of various fuels and conservation of versatile resources.

In light of the above, a question can be raised of whether it is appropriate for the Agency to consider the need for power on a utility's system in an individual licensing proceeding. In this connection, determinations of the need for power and need for the plant could be viewed as matters which should be left to the utility's management, which must exercise its business judgment to discharge its obligation to provide reliable electrical service. It might be proper if there was a national or regional energy policy, to determine in a licensing proceeding if a utility is complying with such policy. However, the Board does not know of any energy policy on these matters, and it does not seem appropriate for licensing boards, in ruling on permits for construction and operation of individual plants, to set energy policy on a case-by-case basis.

If determination of the need for power is a business decision, then, in the Board's opinion, it should not be a factor in the Agency's NEPA considerations and is inappropriate as an issue in licensing proceedings. This, of course, would not be in line with accepted practice in licensing proceedings and would be contrary to the holding in Vermont Yankee Nuclear Power Corporation (*Vermont Yankee Nuclear Power Station*), ALAB-179, RAI-74-2, 159, 175 (February 28, 1974), where the Atomic Safety and Licensing Appeal Board explicitly ruled:

> At the outset, inquiry must be made into whether there exists a genuine need for the electricity to be produced. This inquiry involves not only analysis of existing generating capacity and of projections of expected growth, but also consideration of the possibility that measures to curtail consumption will be initiated.

The Board suggests that review and possible revision of the agency's present position on inclusion of the need-for-power issue in Licensing

proceedings should be seriously considered. This Board does not have the option here to change that position as it is bound by the Appeal Board's Vermont Yankee ruling

* * *

The use of an alternative basis for justifying construction of a nuclear plant was recognized by the Appeal Board when it further stated in Vermont Yankee:

> At the same time, however, cognizance can be taken of the effect which a shortage of fossil fuel, or a need to divert that fuel to other uses, might have upon demand for non-fossil fuel, or a need to divert that fuel to other uses, might have upon demand for non-fossil fueled generating sources. [*Id.*]

In consideration of the remarks above, we distinguish between determination of the broad "need for power" issue and two distinct categories of "alternatives" to the proposed action, (1) "alternative energy sources" and (2) alternative sites and other alternative design measures with respect to environmental impact of the plant. The first category clearly is closely related to the need for power issue in that certain energy sources such as solar power or other emerging technologies might in some circumstances be found capable, if provided, of supplying at least a portion of the power for which the proposed plant is intended. But, short of governmental action beyond the Board's power, if a Board should decide that such alternative sources could supply sufficient power that the proposed plant need not be built, it has no power to assure that the alternative sources will indeed be made available. In such a case, the Board would be compelled to make a business and economic judgment that the alternate sources will appear, a judgment which might best be left to other entities. In other words, is a licensing proceeding the proper forum for business judgment or determination of energy policy? We respectfully suggest that it is not.

As for the second category, it seems clearly intended to provide a mechanism whereby the environmental impact of a proposed plant can be evaluated and appropriate measures to minimize the impact can be considered. Consideration of such matters in a licensing proceeding is in our opinion proper and consistent with the spirit and intent of NEPA.

In view of the foregoing, it may be useful to consider whether a "major federal action," for which NEPA requires detailed environmental statements, might for federally managed and/or financed projects be treated differently than federal licensing actions.

For a federally managed or financed project more or less complete control is in the hands of the government. After full environmental review and evaluation, the government can decide on and implement such measures, including any

alternatives of either category, as it deems appropriate and consistent with the overall cost-benefit balance of the project.

In some contrast, a licensing proceeding involves environmental review and evaluation of a project proposed and financed by private persons, and which in addition to economic and business constraints also is subject to various forms of regulatory control by other federal, state, and local bodies. In deciding on need for power and/or alternative energy sources, a Licensing Board inevitably would be deciding some points over which other bodies have control and may be in contradiction to their policies or procedures. Of course, this is not so for issues which the Board is required to address and rule upon under the Atomic Energy Act.

In short, it appears that a Licensing Board has the power to deny a license, but not to order alternatives such as other modes of generation or modes of conservation. In other words, a Board's power appears to be essentially a negative power insofar as the issues under discussion are concerned. This would appear to raise the question, is it, therefore, useful to go through the exercise, which often is lengthy, tedious, complex, and expensive, merely to affirm an otherwise licensable plant or to offer in denial conclusions that have no effect other than to veto a plant?[47]

In raising the foregoing questions this Board is aware of and sympathetic to the difficulties of all agencies in the responsible interpretation and implementation of NEPA. We suggest no subversion whatsoever of the spirit and intent of NEPA. Our sole objective is to stimulate thoughtful consideration of the subject by those in better position to take such action as seems appropriate.

In regard to transmission lines, the Applicants, although acknowledging the constraints of legal precedent upon the Board, urge the Board nontheless to rule that it is without authority to order the Applicants to adopt any specific routes for transmission lines and to further rule that the Board's authority is limited to a consideration of the environmental and economic costs of the lines proposed by the Applicants as part of the overall cost-benefit balance in connection with the facility as a whole (Applicants' Proposed Finding V.X).

We reject this Proposed Finding and base our ruling on the decision of the Atomic Safety and Licensing Appeal Board in Detroit Edison Company, (*Greenwood Energy Center, Units 2 and 3*), Dkt. Nos. 50-452, 50-453, ALAB-247, RAI-74-12, 936, December 20, 1974).

## V. DETERMINATIONS AS TO ULTIMATE ISSUES

The Board has given consideration to all the evidence presented in this

[47] The futility of the issues discussed here in a licensing proceeding for an individual plant is highlighted by the fact that a utility can build a different type plant if its application for a nuclear facility is denied.

proceeding and, based on a review of the entire record and on the Findings of Fact, Conclusions of Law, and Supporting Opinion herein, the Board makes the following Determinations on ultimate issues with respect to issuance of a construction permit for the facility.

Construction of the facility is justified on the basis that it will be available (a) to meet actual demand or (b) as a desirable or necessary substitute for fossil fuel generation.

In accordance with the provisions of 10 CFR §50.35(a):

(a) The Applicants have described the proposed design of the facility, including but not limited to, the principal architectural and engineering criteria for the design, and have identified the major features for components incorporated therein for the protection of the health and safety of the public;

(b) Such further technical or design information as may be required to complete the safety analysis and which can reasonably be left for later consideration will be supplied by the Applicants in the Final Safety Analysis Report;

(c) There are no safety features or components of the Seabrook Facility design which require research and development within the meaning of 10 CFR §50.2(n).

(d) On the basis of the findings in subparagraphs (a), (b), and (c) above, there is reasonable assurance that (i) such safety questions will be satisfactorily resolved at or before the latest date stated in the application for completion of construction of the proposed facility, and (ii) taking into consideration the site criteria contained in 10 CFR 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public.

The Applicants are technically qualified to design and construct the proposed facility.

The Applicants are financially qualified to design and construct the proposed facility.

The issuance of a permit for construction of the facility will not be inimical to the common defense and security or to the health and safety of the public.

The requirements of Section 102(2)(A), (C), and (D) of NEPA and of 10 CFR 51 have been complied with in this proceeding.

Independently considering the final balance among conflicting factors contained in the record of the proceeding, and after weighing the environmental, economic, technical, and other benefits against environmental costs and considering available alternatives, the appropriate action to be taken is the issuance of the construction permit for the facility, with appropriate conditions, as set forth herein, for protection of environmental values.

## VI. ORDER

On the basis of the Board's findings and conclusions in this Initial Decision, and pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations, it is ORDERED:

That the Director of Nuclear Reactor Regulation is authorized to issue construction permits in appropriate form to the Applicants herein to construct Seabrook Station Units 1 and 2.

That such permits shall contain the following conditions for the protection of the environment:

a. Applicants shall comply with any and all appropriate conditions set forth in the FWPCA §401 certificates issued by the State of New Hampshire. However, in the event that EPA should approve a closed-cycle cooling system for Seabrook, on which approval the State of New Hampshire would base and issue a §401 certificate pursuant to FWPCA, then, in that event, the construction permits referred to herein are not authorized by this Board;

b. The Applicants shall provide a description and results of analytical analyses or other studies, and additional current and wind studies being performed so the Staff can confirm the adequacy of the final design of the discharge diffuser;

c. The Applicants shall design the plant so as to meet a chlorine design objective of total residual chlorine at the diffuser outfall of no more than 0.1 mg/liter (Section 5.5.2.3). The Applicants shall undertake a study with the objective of determining means to minimize the discharge of total residual chlorine by means which may include but are not limited to mechanical techniques for condenser tube cleaning and determination of minimum chlorination (duration, amount, and frequency) required to achieve the necessary control of organic growths;

d. The Applicants shall alter the route of the Seabrook-Newington transmission line in the Packer Bog area so as to traverse the Bog, as shown on Applicants' Exhibit 18;

e. The Applicants shall alter the route of the Seabrook-Scobie transmission line in the Pow Wow-Cedar Swamp Natural Area so as to conform to the Staff's minimum circumference dogleg, which is formed by a straight extension northward of Applicants' B dogleg (PSCO's alternative B dogleg, Applicants' Ex. 15 and Figure 4.2 of the FES) until it intersects the Staff's FES dogleg (NRC proposed route, Applicants' Ex. 15), and on the west of Applicants' B dogleg, by extending that west segment straight on toward the north edge, until it intersects the Staff's FES dogleg;

f. The Applicants shall supplement the pre- and postoperational monitoring program described in the ER, with amendments, as required by the Staff;

g. The Applicants shall take the necessary mitigating actions, including those summarized in Section 4.5 of FES during construction of the Station and associated transmission lines to avoid unnecessary adverse environmental impacts from construction activities;

h. A control program shall be established by the Applicants to provide for a periodic review of all construction activities to assure that those activities conform to the environmental conditions set forth in the construction permits.

i. If unexpected harmful effects or evidences of significant damage are detected during facility construction and operation the Applicants shall provide to the Staff an acceptable analysis of the problem. As a part of the operational monitoring program, Applicants shall take samples of entrained plankton (organisms) and determine therefrom the relative abundance of key species, such as lobster, finfish, and soft-shelled clam. This monitoring program shall be carried out during the summer months for at least three years.

IT IS FURTHER ORDERED, in accordance with 10 CFR Parts 2.760, 2.762, 2.764, 2.785, and 2.786 of the Commission's Rules of Practice, that this Decision shall constitute the final decision of the Commission subject to the review thereof under the above cited rules. Pursuant to Section 2.762 exceptions to this Initial Decision must be filed within seven (7) days after service of that decision and a brief in support of the exceptions must be filed within fifteen (15) days thereafter (twenty days in the case of the Staff). Within fifteen (15) days of the filing and service of the brief of the appellant (twenty days in the case of the Staff), any other party may file a brief in support of, or in opposition to, the exceptions.

BY THE ATOMIC SAFETY AND LICENSING BOARD

Dr. Marvin M. Mann

John M. Frysiak, Chairman

Dated this 29th day of June, 1976
At Bethesda, Maryland.

**Dissenting Opinion:**

This Dissenting Opinion is being issued pursuant to 10 CFR Part 2, Appendix A §VII(a), which provides in pertinent part:

> The vote of a majority controls in any decision by a Board, including rulings during the course of a hearing, as well as formal orders and the Initial Decision. A dissenting member is, of course, free to express his dissent and the reasons for it in a separate opinion for the record.

I join with the majority in its ruling on the following issues:

1. The safety evaluation of the plant
2. Financial qualifications
3. Technical qualifications–quality assurance–and organization and management
4. Seismic design
5. Site suitability (Health and Safety aspects)
6. Evacuation and Emergency Plans
7. Radiation monitoring
8. Ultimate heat sink
9. Research and Development
10. Emergency Core Cooling System
11. As Low as Practicable
12. Common defense and security
13. Compliance with NEPA issues to the extent of complying with 10 CFR Part 50, Appendix D
14. Archeology
15. Wildfowl
16. Decommissioning
17. Public lands and access
18. Turbidity and construction runoff
19. Reliability
20. Alternate energy sources

On the issues of *tourism* and *aesthetics*, I join in with the majority on its rulings to the extent that neither of these issues, independently or together, would cause an impact of such significance that the construction permit should be denied. The number of persons visiting the Hampton-Seabrook beaches would not change materially. On the other hand, the type of tourism on the Hampton marshes would change. The presence of the plant with its switchyard and transmission lines would form an aesthetic impact that would vary in severity from the point of observation and in the attitude (mental) of the observer. From the beaches and roadways, the impact would be minor.

I also join in with the finding of the majority that cooling towers are not compatible with the Seabrook site.

On the remaining issues, I find myself in disagreement with the majority to a large degree as a matter of opinion rather than in findings of fact.[48] The record on the aquatic impacts allows for differences in opinion–which lead to a divergence in the final cost-benefit analysis. Here, the record is of little value. The Applicants' approach, relying on a previous ruling that "the benefits of electricity are priceless" defies common sense. This, coupled with the approach of the Staff, does not help resolve an issue that can be considered as *the* ultimate one. It may be that the issue has no resolution; regardless, it deserves better attention than it received.

I do not join in with the majority in the following issues:

1. Aquatic effects of the condenser cooling systems
2. Effects of plant operation on commercial and recreational fishing
3. Effects of plant operation on clam flats
4. Consideration of alternate sites
5. Transmission lines
6. Need for power
7. Final cost-benefit analysis

## INTRODUCTION

My opinion is based on a result of a lack of complete agreement with the majority on each of the above issues and on an overall cumulative judgment based on the following:

1. The operation of the two proposed units at Seabrook would cause sufficient adverse impact on the aquatic biota, of commercial and recreational importance, so that other alternatives should be sought.
2. The alternatives should include further consideration of alternate sites. The Litchfield site, for example, should be evaluated in detail.
3. The need for power is, as admitted by all parties, not urgent and allows adequate time for consideration of alternate sites.
4. The proposed delay of Millstone 3 should be reconsidered, especially after the repeated declarations by the Applicants that the energy requirements should be considered on a regional basis.
5. The direct route of the transmission lines from Seabrook to the Scobie Pond substation with its high environmental impact should be avoided. Although the doglegs proposed by the Staff[49] and "Forests"[50] lessen the environmental impact, it (the impact) can be further reduced by

[48] Disagreement on findings of fact are principally limited to issues of transmission lines, need for power, and consideration of alternate sites.

[49] The so-called minimum circumference dogleg.

[50] Forests proposes as a last alternative a dogleg of greater (maximum) circumference.

utilizing the "Northern Route."[51] The claims of the Applicants that electrical stability is a major problem can, in my opinion, be discounted considerably; however, if the problem of stability cannot be resolved, then I would recommend the maximum circumference dogleg. The entire issue may be resolved by further consideration of alternate sites.

In summary, I do not believe that, in the long run, it is to the best interests of the nuclear energy program (or any other energy program) to take a site that is not suitable and "backfit" it at all costs. This is especially true when after all the precautions have been taken, more than just a chance remains for a significant environmental impact.

**History and Analysis of the Choice of the Seabrook Site**

1. The history of the selection of the Seabrook site began in 1962 when PSCO retained a consultant to assist PSCO in a study and analysis of sites for thermal plants in the State of New Hampshire. Sites were studied on the Piscataqua, Merrimack, and Connecticut Rivers.[52]

2. This siting study, completed in 1963, concluded that the next PSCO unit should be an addition to the Merrimack Station in Bow, New Hampshire; this was done, and the unit was placed in service in 1968.[53]

3. During construction of this unit in 1966, PSCO decided to review and update its siting studies with a view toward future units.[54]

4. The 1967 studies were before the passage of NEPA so the consultant's report (The Jackson-Moreland Study) did not take into consideration environmental matters.[55]

5. Seabrook was considered by the consultants as a site with once-through cooling with a harbor inlet and an ocean discharge.[56]

6. The Litchfield site was not considered by the consultants.[57]

7. The 1969 studies conducted by the Applicants' consultants had started to evaluate the environmental aspects of the in-harbor intake. By 1972, the plans had changed to a larger nuclear plant with an offshore intake and discharge.[58]

8. It was at about this time that the Staff expressed concerns about several

[51] The Seabrook-Newington corridors with the so-called Barton Hill jog.
[52] Applicants' Direct No. 14, post Tr. 10162, p. 27; ER, Vol. 2, p. 9.2-12.
[53] Applicants' Direct No. 14, post Tr. 10162, p. 28; ER, pp. 9.2-12, 9.2-13.
[54] Applicants' Direct No. 14, post Tr. 10162, p. 28; ER, p. 9.2-13.
[55] Tr. 10202, 10203.
[56] Tr. 10204, 10252. It is not clear whether an inharbor discharge was contemplated.
[57] Tr. 10238.
[58] Tr. 10681-2.

features of the Seabrook site; however, these concerns were resolved to the Staff's satisfaction.[59]

### Conclusion

The advantages of once-through cooling with an in-harbor or shoreline intake and discharge are many. This allows for versatility in intake and discharge design, and construction costs are generally substantially lower than offshore designs. When these concepts are abandoned, it does not follow that the next logical step is to utilize the same site with an offshore intake and discharge concept. This is particularly true in the case of Seabrook, where the same biological problems occur offshore, albeit at an apparent lesser degree.[60] Once the fishcap is in place, the versatility to adjust, except for controlling intake velocity, is lost. The situation at Seabrook is not analogous to the offshore intakes in operation in California and the Great Lakes. This will be discussed further in the section on aquatic impacts.

## THE EFFECTS OF THE CONDENSER COOLING SYSTEM ON THE BIOTA, THE COMMERCIAL AND RECREATIONAL FISHERIES, AND THE CLAM FLATS OF HAMPTON HARBOR

### Introduction

I shall address all of the aquatic issues[61] as one, as they are all affected by the problem of entrainment. First, I would like to point out that I agree with the majority on the issues of construction and thermal impacts. Generally, I also agree on the impacts of entrapment of adult fishes; however, *in the case of Seabrook,* I do not agree with the Staff on the benefits of monitoring entrapment as well as entrainment. The Staff says, "The monitoring program concentrates on the above areas, especially with regard to possible effects of entrainment, entrapment, and of discharge water quality parameters . . . All of the above are necessary so that significant impacts on the biota may be observed within a short time frame, and that ameliorative measures can be expeditiously carried out."[62] In my opinion, at Seabrook there are no ameliorative measures that can be carried out.[63]

---

[59] Tr. 10506.

[60] With the possible exception of the lobster. An offshore intake may have a greater impact than an in-harbor intake.

[61] The aquatic effects on the biota, the effects upon the recreational and commercial fisheries, and the effects on the clam flats.

[62] NRC Staff Testimony on Aquatic Impacts, post Tr. 10883, pp. 12-13.

[63] The only practical ameliorative measures are cooling towers, and the Board has ruled against cooling towers at the Seabrook site.

## Review of the Aquatic Impacts

In consideration of the operation of the cooling system, the adverse effects are divided into two basic categories. The first includes entrainment and entrapment, and the second, thermal effects of the discharge (including shutting off of the heated water). The latter category also includes backflushing, chlorination, and other procedures used for controlling fouling organisms. Entrainment is the inclusion of passive (non-freeswimming) organisms in the coolant water as it travels through the intake, the tunnels, the screens at the pumphouse, the condenser tubes, and the discharge system. The effects of entrainment are directly proportional to the percentage of the body of water (aquatic system) of concern that is used as coolant water and the numbers of organisms of concern in the aquatic system. The mortality rate due to entrainment is dependent upon the design of the system and, in the case of Seabrook, it is assumed to be 100%.[64]

Entrapment is inclusion of free-swimming (finfish, primarily) organisms. Entrapment is considered by the Applicants to be a function of intake location and intake design. Thus, entrapment is not a simple function of the number of free-swimming organisms per unit of volume, i.e., density of organisms. Behavior such as schooling and migratory patterns also affect the susceptibility of nektonic (free-swimming) organisms to entrapment.

As entrainment is the principal effect of concern and the two principal organisms of concern are the soft-shelled clam (*Mya arenaria*) and the American lobster (*Homarus americanus*), I shall limit my comments to these two organisms.

## Studies of Mya arenaria

In 1973, at Mooring 5 ("original intake site"), *M. arenaria* larvae were found almost exclusively in surface samples and with two major peaks of abundance, June (up to 123/$m^3$) and July (up to 440/$m^3$).

In 1974, the larvae were fairly evenly distributed throughout the water column in the near-coastal area; however, none were found in June and, except for a fairly heavy concentration at mid-depths on July 8, none were captured until July 22, once again at mid- and bottom-depths. But within the limits of the models presented in Applicants' Exhibit 33, one can conclude that in 1974, the larvae were distributed fairly evenly throughout the water column, at least as far offshore as the "new intake site" (7,000 feet offshore).[65]

In the estimations of mortality, the ecosystem was defined as the seaward

[64] Applicants' Direct No. 22, post Tr. 10546, p. 27.

[65] Tech Report V-2, Applicants' Ex. 30; Tech Report V-4, Applicants' Ex. 32; Tech Report VI-1, Applicants' Ex. 33; Rec'd Tr. 10555.

limits of distribution for the species being considered. In the case of the soft-shelled clam, *M. arenaria*, the larvae are found predominately within 3 to 4 miles offshore.[66]

The percentage of the population entrained would depend on three factors: the stability of the water column, the current speed, and the vertical distribution of the population of clam larvae. Using combinations of these factors, the Applicants' consultants calculated "on the average, over short periods of time, between 2.9% and 4.6% of the clam larvae passing within 2.5 miles of shore in 30 feet of water would be entrained. A 2.5-mile boundary was used to make the impact conservative." These conclusions were based on the original intake site.[67]

The Applicants' consultants' model had the intake drawing water from a volume 2.5 miles wide by 30 feet deep and with the water "streamlines"[68] entering the intake as a function of the ambient current and the stability of the water column. Since the new intake location is in the same 2.5-mile zone, this would not modify the calculations of entrainment.

**Studies of American Lobster**

The inshore lobster fisheries is one of the principal commercial (and recreational) activities in coastal New Hampshire waters. Normandeau Associates, Inc., (NAI) conducted a special lobster trapping program in 1972 and 1973. An effort was made to recover lobster larvae from the ichthyoplankton tows.

Typically, after hatching in June and July, lobster larvae remain very close to the water surface for 10 to 20 days, during which time they undergo four or five molts (stages) before descending to the sea bottom. High surface temperatures (64.5°F to 70°F) decrease the time between molts so that the development stage is decreased; however, "there is the possibility that they may be smaller in size than their counterparts reared at cooler temperatures."[69]

The Applicants believe that the smaller lobsters in the area of study are being recruited from outside the study area.[70]

No absolute rates of settling were presented. The Applicants' consultants assumed that a worst case example of the entrainment effects would be one equivalent to the rest of the meroplankton; i.e., a 3% to 5% mortality of the neritic band of plankton in the waters passing the intake within 2.5 miles of shore and in 30 feet of water.[71]

---

[66] Tech Report VI-1, Applicants' Ex. 33.
[67] Applicants' Direct no. 22, post Tr. 10546, p. 46.
[68] Applicants' Direct No. 22, post Tr. 10546, p. 47.
[69] Tech Report V-1, Applicants' Ex. 29, p. 2.
[70] Applicants' Ex. 29, p. 17.
[71] Applicants' Testimony 9, p. 3; Tr. 10614.

The studies were incomplete; however, I acknowledge that a complete study is difficult to execute.[72] Because the data are inconclusive, a conservative estimate of the effects must be made.

The Board requested the Applicants to supply data on the size of the lobster catch[73] and the Applicants complied to the best of their ability. Because of the nature of the available records, it was difficult to assess the intensity of the fishery.[74] The number of licenses issued is available, but the catch as determined by interview is suspect.[75] Nevertheless, the Applicants obtained the number of license holders, the approximate location of their fishing the number of traps set, and a conservative[76] estimate of the catch in pounds of legal lobsters. In summary, in 1970, there were 81 license holders for the Hampton-Seabrook area, of which 19 were for sport fishing only (5 traps maximum). Thus, there were 62 commercial fishermen. In 1970, 92 traps were used by sport fishermen and 3,322 by commercial fishermen for a total of 3,414 traps. The estimate for the catch in 1970 is 74,458 pounds, divided into 1,225 pounds for the sport fishing and 73,233 pounds for the commercial.

The Applicants assess the status of the lobster fishery as "being in deep trouble."[77]

Meanwhile, in Hampton Harbor there has been a rapid decline in harvest of clams from 23,400 bushels in 1967 to 4,670 bushels in 1973. This decline is dramatic and disturbing.[78]

## Conclusion

A broadly accepted definition of a significant effect is one that is irreversible. Under certain circumstances, I believe that an effect that contributes to a series of events (effects) that in summation are irreversible can be, in itself, considered significant. The latter may include events that may be independent of the effect under consideration—for example, extraneous pollutants, overfishing, or other poor management practices. In my opinion, the situation may occur where an effect becomes significant only because other extraneous effects make it so.[79]

The state of knowledge of lower order biological populations, or of juveniles

[72] Applicants' Testimony 22, p. 35.
[73] Tr. 10756.
[74] Tr. 10757.
[75] Tr. 10679.
[76] The Board understands "conservative" in this case to mean "minimum" (Tr. 10757). Not all "townswaters" were included, and some of these overlapped with Hampton and Seabrook.
[77] Tr. 10614.
[78] Tr. 10795 and 10870.
[79] Tr. 10712-14.

of higher order populations, is such that most judgments as to significant impact are subjective. In the case of Seabrook, the Applicants and Staff believe that the conservative[80] estimate of 3% to 5% impact on the larvae of *Mya*, lobsters, and some larval finfishes is not significant.

One of the Applicants' witnesses considered an impact to be significant if it causes an "imbalance" of a population.[81] In this case, one can assume that the Hampton Harbor soft-shelled clam population(s) and the stock of lobsters off Hampton Beach are already in a state of "imbalance." Until "balance" is restored, no extraneous causes of mortality should be allowed . . . particularly for a valuable product, such as the lobster.

If the proposed Seabrook Plant were to be constructed so that the cooling water were to be withdrawn from Hampton Harbor, rather than from the ocean, approximately 17.5% of the plankton[82] entering the Harbor during each tidal cycle would be destroyed (the Staff's estimate was 19.0%).[83] If the entire Gulf of Maine were considered as the coolant water source (using the top 100 feet of water), a 0.01% of the herring larvae would pass through the Plant.[84]

The 3% to 5% mortality of local meroplankton of concern (including larval fishes, soft-shelled clams[85] and lobster) is a rate that Applicants' consultants suggest we consider. Considering the status of the stocks of concern, the status of the fisheries, and the fact that ameliorative measures are not practically available,[86] I find the estimated 3% to 5% mortality rate unacceptable. It is also obvious that additional units should not be considered for Seabrook.

Because of the vicissitudes of sampling, the actual mortality rates that will accrue probably will not be able to be measured. Thus, when the adult populations decline, that is the only significant parameter that will be documented.

I wish to commend the Applicants' consultants, Normandeau Associates, Inc., for an outstanding performance in the difficult disciplines of marine biology. The record was incomplete in some areas, particularly so in the studies of lobsters and the distribution and abundance of *Mya* larvae. To make the record complete would have required an effort greater than could be reasonably expected.[87]

The Seabrook situation is not analogous to existing power plants in California and on the Great Lakes. There, the concerns are primarily those of

---

[80] In this sense, it is considered to be a maximum impact.

[81] Tr. 10714.

[82] Including larval fishes and larval clams.

[83] Tr. 10600 and FES 11-36; Tr. 10908.

[84] Tr. 10601.

[85] The figures 2.9% to 4.6% were developed for the clams.

[86] The Board has ruled that cooling towers are unacceptable at the Seabrook Site.

[87] Complete studies would require thorough sampling of key species for a number of years . . . perhaps a decade.

entrapment of adult fishes; i.e., the larval fishes and meroplankton were not of as great concern. Also, in most of these cases, cooling towers are a viable alternative.

## DISCUSSION OF ALTERNATE SITES

In my opinion, the record is inadequate to make a firm judgment as to which, if any, of the alternate sites are preferable to the Seabrook site. Nevertheless, because I found the Seabrook site unacceptable for reasons that may be more compatible with some of the other sites, I cannot rule them out. In my opinion, the Gerrish Island, Moore Pond, Rollins Farm, and Litchfield sites should be reconsidered.

For example, in the Litchfield consideration:

a. The comparative effects on the biota were not given proper weight;
b. The costs of construction were not clearly evaluated—for example, the costs of the tunnels alone at Seabrook are equal to the costs of cooling towers at Litchfield;
   The cost of double containment at Seabrook, which may or may not be necessary at Litchfield, was not evaluated;
c. No figures are available comparing the cost of transmission lines;
d. The aesthetic advantages of much shorter transmission lines at Litchfield were not considered;
e. Other aesthetic evaluations were not considered—such as the comparative impact of cooling towers on an inland site vs. the presence of the Seabrook Plant on the Hampton Marsh;
f. Population density at Litchfield meets all requirements;
g. The flood plain at Litchfield is not a major problem, for adequate higher ground is available without encroaching on the State forest.

## NEED FOR POWER

The admitted uncertainty of forecasting electrical demand for periods of 5 or more years in the future, coupled with the predictive margin of error being on the high side in recent years, throws considerable doubt on the need for Seabrook in the near future (i.e., before 1985 or 1986). The reduction in rate of growth of 1%, which was acknowledged, is equivalent to the output of Seabrook.

The minimum New England demand for 1970-1985 is based on a growth rate in energy use from 4.7% to 5.6%. Thus, the base capacity need only meet the 4.7% and short lead time units can be used for the additional 0.9%—if needed.

Although a plant or unit need not be justified for any given year, when it

has been clearly demonstrated that the need has been overestimated and the time schedule can slip by "a few years" and the given plant (Seabrook) has other issues of serious concern, it is a fact that the plant should not be built until other alternatives are considered. The so-called substitution theory is not applicable under these circumstances because the "substitute" (Seabrook) has these serious issues of concern. Furthermore, without the construction of Seabrook, the reserve in the years 1981-1984 will average 19.8% with the reserve through 1983 being over 20%.

Because of the conflicting testimony in the record, it is difficult to define the real need at any specific future date.

Also, if the regional need in early 1980's is real, the delay of Millstone 3 from 1979 to 1982 is illogical on the basis of entanglements with fuel contractors.

## FINAL COST-BENEFIT ANALYSIS

The benefits of generation of electricity by nuclear power are real. The benefits are always accompanied by some costs. These costs, whether financial, social, or environmental are also real. Because the benefits and the costs defy quantification, the relative benefits and costs are weighed grossly without any defined precision.

The high financial costs of the long tunnels with the multiple intakes, the double containment, the Auxiliary cooling tower for the ultimate heat sink, the long transmission lines, and the irrevocable impact on the aquatic resources make the cost-benefit ratio unfavorable.

## CONCLUSION

Since the rate of mortality on larvae is difficult to discern, define, and interpret–and as the significance of any number obtained from post-operational sampling is questionable–it is my opinion that no mortality of larvae should be allowed. In my opinion, the waters off Hampton Beach are not compatible with multiple use; and if the mortality of the lobster larvae is indeed 5% and the clam larvae is 4% and an unknown loss of larval fish[88] also occurs, I would find these mortality rates unacceptable.

And as there is no urgent need for Seabrook, and as the financial costs are inordinately high, and as alternate sites may be available, I find that at this time the costs outweigh the benefits.

---

[88] An estimate of an average annual loss of $1.825 \times 10^{11}$ fish eggs is given on page 119 of Applicants' Ex. 32 and an estimate of $2.0 \times 10^{11}$ ($1824.5 \times 10^{8} + 192 \times 10^{8}$) eggs and larvae is given in Table 23 of Applicants' Ex. 32 (corrected copies).

For the reasons stated above, I recommend that the construction permit be denied.

Ernest O. Salo, Member
Atomic Safety and Licensing Board

June 29, 1976

[Appendix A is omitted from this publication but is available at the NRC's Public Document Room, Washington, D.C.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-76-27

ATOMIC SAFETY AND LICENSING BOARD

John M. Frysiak, Chairman
Dr. Marvin M. Mann
Dr. Ernest O. Salo

In the Matter of

Docket Nos. 50-443
50-444

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, ET. AL.

(Seabrook Station, Units 1 and 2)

June 29, 1976

The Licensing Board denies intervenors' motion to stay its decision pending determination by the Environmental Protection Agency of the legality of applicants' proposed cooling system under the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1251, *et seq.*

FWPCA: SECTION 401 CERTIFICATION

A certification under Section 401 of the Federal Water Pollution Control Act (FWPCA) is not subject to review by a licensing board, as a result of the provisions of Section 511(c)(2) of the FWPCA.

## MEMORANDUM AND ORDER DENYING INTERVENORS SEACOAST ANTI-POLLUTION LEAGUE AND AUDUBON SOCIETY MOTION TO STAY DECISION

By motion dated November 12, 1975, the Board is requested by Intervenors Seacoast Anti-Pollution League (SAPL) and Audubon Society to stay its decision in the instant case pending the determination of the legality of Applicants' proposed once-through cooling system under the provisions of the Federal Water Pollution Control Act (FWPCA), as amended, 33 USC §1251, *et seq.* New England Coalition on Nuclear Power joins in this motion. The motion is opposed by Applicants and Staff.

On March 18, 1975, EPA issued preliminary determinations with respect to the condenser cooling system for Seabrook as originally proposed. These were revised on May 16, 1975 and issued as final on June 24, 1975. In general, EPA approved the concept of once-through cooling and the proposed diffuser dis-

charge but required that the intake be relocated further offshore at a location approximately 42° 54' 18" North latitude and 70° 47' 10" West longitude (Public Service Company of New Hampshire, EPA Dkt. No. NH0020338 (Region 1), Determinations issued 3/18/75, as revised 5/16/75, as final 6/24/75).

Applicants then filed before the EPA and in the form of amendments to the PSAR and ER with NRC and this Board a new intake proposal which was approved by EPA on September 30, 1975 (*Id.*, 9/30/75, and as final 10/24/75). On October 9, 1975, the State of New Hamsphire issued a §401 certificate approving the second EPA determinations.

Intervenors argue that under FWPCA the Environmental Protection Agency (EPA) has the duty of determining the appropriate standards and limitations as to both discharge and intake for the proposed Seabrook station. And, further, the Board must, in light of those standards and limitations, assess the environmental costs and benefits of the proposed license. But here there are no EPA standards and limitations but rather only "Preliminary Determinations" which have been appealed by Intervenors and pending appeals have been stayed by operation of applicable EPA regulations (40 CFR §125.35d(2)).[1]

They argue further that the 401 Certification, as it is conditioned upon the provisions of EPA determinations relative to Sections 316(a) and 316(b) of FWPCA, is nothing more but a "rubber stamp" of EPA actions and is not authority to determine compliance with the relevant provisions of the FWPCA.

We disagree and deny the motion.

The Intervenors propounded the same arguments in their earlier motion to stay further proceedings in the instant case. In our order, dated October 3, 1975, in denying the earlier motion, we stated that it was our analysis:

> "that the fact that the Determinations of the EPA are stayed by the granting of the adjudicatory hearing before EPA does not render the determinations invalid. In the Board's opinion, this is analogous to a judgment being stayed pending appeal, rather than having the effect of vacating the 'Determinations' so that applicant would have to start *de novo* on its request for open cycle cooling under Section 316."
>
> "Further, the August 28, 1975 public notice by EPA granting the adjudicatory hearing, it is clear that any action taken by EPA as a result of the hearing would be an *amendment* of the Determinations. Such language implies that the Determinations remain viable until amended. It follows, if the Determinations remain valid, then the 401 certification conditioned upon them also must remain effective.

[1] EPA Determinations may be modified, suspended or revoked for cause after notice and opportunity for a public hearing and subject to appeal in accordance with 40 CFR §125.36 or other appropriate regulations. An adjudicatory hearing on the Determinations in question has already been held.

"Further, the Board is of the view that it would be a review of adequacy of the 401 certification for this Board to declare the certification invalid. Under Section 511(c)(2) of the FWPCA, the Board is precluded legally from taking such action. In light of this legal interpretation and the Board's conclusion above on the validity of the 401 certification, the Board holds that there is no legal bar to its continuing with the proceeding."

Our reasoning is the same in denying the instant motion. We see no legal impediment to the rendering of our Initial Decision.

Nor are we persuaded otherwise by Intervenors' observation that a decision made now by the Board may be on the basis of an inadequate or improper analysis of alternatives or an unsound cost-benefit review should Determinations of EPA following the adjudicatory hearing differ from the Determinations issued on October 24, 1975.

There are four possible outcomes that can result from the EPA adjudicatory hearing. (1) The intake point may remain the same; (2) the intake point may be moved back to the original point proposed by the Applicants; (3) the intake point may be moved to some, as yet, unspecified point; and (4) EPA may require some closed cycle cooling system.

As will be seen from a reading of our Initial Decision in this proceeding bearing even date, this Board has found the closed cycle cooling system unacceptable for the Seabrook site and this Board does not authorize the issuance of a construction permit in this proceeding should the EPA approve a closed cycle cooling system.

Obviously there is no problem should the EPA approve the intake point to be as presently proposed by Applicants or move it back to the original proposal. The record discloses an adequate and proper analysis of alternatives and cost-benefit review by the Staff on both location points.

Should EPA require the relocation of the intake at some, as yet, unspecified point, this might require further Staff review of environmental and economic costs. Admittedly, this could require reopening of the hearing on this limited issue. However, considering the many issues to be resolved in this proceeding, the Board feels that it would be in the public interest to issue its Initial Decision in this proceeding at the present time.

Accordingly, the motion to stay decision is denied.

IT IS SO ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

John M. Frysiak, Chairman

Issued at Bethesda, Maryland
this 29th day of June, 1976.

ALLIED-GENERAL NUCLEAR SERVICES;ALLIED CHEMICAL NUCLEAR PRODUCTS;GENERAL ATOMIC COMPANY
Materials License; Decision; Docket 701729; ALAB-328 (NRCI-76/4, pp 420-24)
Materials License; Memorandum and Order; Docket 701729; LBP-76-012 (NRCI-76/3, pp 277-91)
Operating License; Memorandum and Order; Docket 701729; LBP-76-022 (NRCI-76/5, pp 706-10)
Operating License; Memorandum and Order; Docket 701729; LBP-76-024 (NRCI-76/5, pp 725-38)
ARIZONA PUBLIC SERVICE COMPANY;SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT;EL PASO ELECTRIC COMPANY;SOUTHERN CALIFORNIA EDISON COMPANY;PUBLIC SERVICE COMPANY OF NEW MEXICO;ARIZONA ELECTRIC POWER COOPERATIVE, INC.
Construction Permit; Initial Decision; Dockets STN 50528;STN 50529;STN 50530; LBP-76-021 (NRCI-76/5, pp 662-705)
BOSTON EDISON COMPANY;CENTRAL MAINE POWER COMPANY;CENTRAL VERMONT PUBLIC SERVICE CORPORATION;CONNECTICUT LIGHT AND POWER COMPANY;FITCHBURG GAS AND ELECTRIC LIGHT COMPANY;NEW BEDFORD GAS AND EDISON LIGHT COMPANY;NEW ENGLAND POWER COMPANY, et al.
Construction Permit; Order; Docket 50471; LBP-76-007 (NRCI-76/2, pp 156-8)
CINCINNATI GAS AND ELECTRIC COMPANY;COLUMBUS AND SOUTHERN OHIO ELECTRIC COMPANY;DAYTON POWER AND LIGHT COMPANY
Operating License; Decision; Docket 50358; ALAB-305 (NRCI-76/1, pp 8-13)
CLEVELAND ELECTRIC ILLUMINATING COMPANY;DUQUESNE LIGHT COMPANY;OHIO EDISON COMPANY;PENNSYLVANIA POWER COMPANY;TOLEDO EDISON COMPANY
Antitrust; Memorandum and Order; Dockets 50346A;50500A;50501A/50440A;50441A; ALAB-314 (NRCI-76/2, pp 98-100)
Antitrust; Memorandum; Dockets 50346A;50500A;50501A/50440A;50441A; LBP-76-008 (NRCI-76/3, pp 199-204)
Antitrust; Memorandum and Order; Dockets 50346A;50500A;50501A/50440A;50441A; LBP-76-002 (NRCI-76/1, pp 39-43)
Antitrust; Memorandum and Order; Dockets 50346A;50500A;50501A/50440A;50441A; LBP-76-005 (NRCI-76/2, pp 127-34)
Licensing, Antitrust; Order; Dockets 50346A;50500A;50501A/50440A;50441A; LBP-76-011 (NRCI-76/3, pp 223-76)
COMMONWEALTH EDISON COMPANY
Construction Permit; Decision; Dockets STN 50454;STN 50455/STN 50456;STN 50457; ALAB-312 (NRCI-75/2, pp 91-3)
CONSOLIDATED EDISON COMPANY OF NEW YORK
Operating License, Compliance; Decision; Dockets 50300;50247;50286; ALAB-304 (NRCI-76/1, pp 1-7)
Operating License; Memorandum and Order; Dockets 50300;50247;50286; ALAB-319 (NRCI-76/3, pp 188-95)
CONSUMERS POWER COMPANY
Compliance; Opinion on Reconsideration; CP-81;CP-82; ALAB-315 (NRCI-76/2, pp 101-112)
Operating License, Compliance; Memorandum and Order; Docket 50155; CLI-76-008 (NRCI-76/5, pp 598-606)
DUKE POWER COMPANY
Construction Permit; Initial Decision, Partial -Nepa and Site Suitability; Dockets 50491;50492;50493; LBP-76-018 (NRCI-76/5, pp 627-51)
DUQUESNE LIGHT COMPANY;OHIO EDISON COMPANY;PENNSYLVANIA POWER COMPANY

Operating License; Initial Decision, Supplemental; Docket 50334; LBP-76-023 (NRCI-76/5, pp 711-24)
Operating License; Initial Decision; Docket 50334; LBP-76-003 (NRCI-76/1, pp 44-72)
Operating License; Order; Docket 50334; ALAB-310 (NRCI-76/1, pp 33-5)
DUQUESNE LIGHT COMPANY;OHIO EDISON COMPANY;PENNSYLVANIA POWER COMPANY;CLEVELAND ELECTRIC ILLUMINATING COMPANY;TOLEDO EDISON COMPANY
Construction Permit; Initial Decision, Supplemental Partial; Dockets 50440;50441; LBP-76-017 (NRCI-76/5, pp 621-6)
EDLOW INTERNATIONAL COMPANY (Agent for Government of India)
Special Nuclear Materials, Export License; Opinion; Dockets 702071;702131; CLI-76-006 (NRCI-76/5, pp 563-93)
Special Nuclear Material, Export License; Order; Dockets 702071;702131; CLI-76-007 (NRCI-76/5, pp 594-7)
Special Nuclear Materials Export License; Order; Dockets 702071;702131; CLI-76-004 (NRCI-76/3, pp 159-60)
Special Nuclear Materials, Export License; Order; Dockets 702071;702131; CLI-76-005 (NRCI-76/3, pp 161-5)
FLORIDA POWER AND LIGHT COMPANY
Construction Permit; Decision; Docket 50389; ALAB-335 (NRCI-76/6, pp 830-46)
GULF STATES UTILITIES COMPANY
Construction Permit; Memorandum and Order; Dockets 50458;50459; ALAB-329 (NRCI-76/5, pp 607-12)
Construction Permit; Memorandum and Order; Dockets 50458;50459; ALAB-317 (NRCI-76/3, pp 175-85)
HOUSTON LIGHT AND POWER COMPANY;CITY OF AUSTIN, TEXAS;CITY PUBLIC SERVICE BOARD OF SAN ANTONIO, TEXAS;CENTRAL POWER AND LIGHT COMPANY
Construction Permit; Decision; Dockets STN 50498;STN 50499; ALAB-306 (NRCI-76/1, pp 14-16)
ILLINOIS POWER COMPANY
Construction Permit; Initial Decision; Dockets 50461;50462; LBP-76-006 (NRCI-76/2, pp 135-55)
KANSAS GAS AND ELECTRIC COMPANY;KANSAS CITY POWER AND LIGHT COMPANY
Construction Permit; Decision; Docket 50482; ALAB-331 (NRCI-76/6, pp 771-84)
Construction Permit; Decision; STN-50482; ALAB-321 (NRCI-76/4, pp 293-330)
Construction Permit; Decision; Docket 50482; ALAB-327 (NRCI-76/4, pp 408-19)
Construction Permit; Memorandum and Order; Docket STN 50482; ALAB-311 (NRCI-76/2, pp 85-90)
Construction Permit; Memorandum and Order; Docket STN 50482; ALAB-307 (NRCI-76/1, pp 17-19)
Construction Permit; Order; Docket STN 50482; LBP-76-019 (NRCI-76/5, pp 652-4)
LONG ISLAND LIGHTING COMPANY
Construction Permit; Memorandum and Order; Docket 50516;50517; ALAB-318 (NRCI-76/3, pp 186-7)
NATURAL RESOURCES DEFENSE COUNCIL
Mixed Oxide Fuel Licensing, Interim; Memorandum and Order; CLI-76-002 (NRCI-76/2, pp 76-81)
PACIFIC GAS AND ELECTRIC COMPANY
Operating License; Decision; Dockets 50275;50323; ALAB-334 (NRCI-76/6, pp 809-29)
Operating License; Memorandum and Order; Dockets 50275 OL;50323 OL; CLI-76-001 (NRCI-76/2, pp 73-5)
Operating License; Order; Dockets 50275;50323; ALAB-320 (NRCI-76/3, pp 196-7)
PHILADELPHIA ELECTRIC COMPANY;PUBLIC SERVICE ELECTRIC AND GAS COMPANY;DELMARVA POWER AND LIGHT COMPANY;ATLANTIC CITY ELECTRIC COMPANY
Operating License; Order; Dockets 50277;50278; CLI-76-003 (NRCI-76/2, pp 82-3)
PORTLAND GENERAL ELECTRIC COMPANY
Construction Permit; Memorandum and Certification to Commission; Dockets 50514;50515; ALAB-333 (NRCI-76/6, pp 804-08)
POTOMAC ELECTRIC POWER COMPANY
Construction Permit; Order; Dockets 50448;50449; LBP-76-009 (NRCI-76/3, pp 205-08)
Construction Permit; Order, Prehearing Conference and Evidentiary Hearing;

Dockets 50448;50449; LBP-76-013 (NRCI-76/4, pp 425-29)
POWER AUTHORITY OF THE STATE OF NEW YORK
Construction Permit; Memorandum and Order; Docket 50549A; LBP-76-020 (NRCI-76/5, pp 657-61)
PROJECT MANAGEMENT CORPORATION;TENNESSEE VALLEY AUTHORITY
Construction Permit; Memorandum and Order; Docket 50537; ALAB-330 (NRCI-76/5, pp 613-20)
Construction Permit; Memorandum and Order; Docket 50537; ALAB-326 (NRCI-76/4, pp 406-07)
Construction Permit; Memorandum and Order; Docket 50537; LBP-76-014 (NRCI-76/4, pp 430-44)
PUBLIC SERVICE COMPANY OF INDIANA
Antitrust; Memorandum and Order; Dockets 50546A; 50547A; LBP-76-025 (NRCI-76/6, pp 847-56)
Construction Permit; Decision; Dockets STN-50546;STN-50547; ALAB-322 (NRCI-76/4, pp 328-30)
Construction Permit; Decision; Dockets STN 50546;STN 50547; ALAB-316 (NRCI-76/3, pp 167-74)
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE;UNITED ILLUMINATING COMPANY
Construction Permit; Initial Decision; Dockets 50443;50444; LBP-76-026 (NRCI-76/6, pp 857-949)
Construction Permit; Memorandum and Order; Dockets 50443;50444; LBP-76-027 (NRCI-76/6, pp 950-2)
Construction Permit; Memorandum and Order; Dockets 50443;50444; LBP-76-004 (NRCI-76/2, pp 123-26)
PUERTO RICO WATER RESOURCES AUTHORITY
Construction Permit; Memorandum and Order; Docket 50376; ALAB-313 (NRCI-76/2, pp 94-7)
SOUTHERN CALIFORNIA EDISON COMPANY;SAN DIEGO GAS AND ELECTRIC COMPANY
Construction Permit; Memorandum and Order; Dockets 50361;50362; ALAB-308 (NRCI-76/1, pp 20-30)
TENNESSEE VALLEY AUTHORITY
Partial Initial Decision, Site suitability and NEPA findings; Dockets STN-50518;STN-50519;STN-50520;STN-50521; LBP-76-016 (NRCI-76/4, pp 485-562)
Operating License; Ruling on Petition to Intervene; Dockets 50259;50260; LBP-76-010 (NRCI-76/3, pp 209-22)
TOLEDO EDISON COMPANY;CLEVELAND ELECTRIC ILLUMINATING COMPANY;DUQUESNE LIGHT COMPANY;OHIO EDISON COMPANY;PENNSYLVANIA POWER COMPANY
Antitrust; Decision; Dockets 50346A;50500A;50501A/50440A;50441A; ALAB-332 (NRCI-76/6, pp 785-803)
Operating License, Antitrust; Decision; Docket 50346A; ALAB-323 (NRCI-76/4, pp 331-46)
UNION ELECTRIC COMPANY
Construction Permit; Initial Decision; Dockets STN-50483;STN-50486; LBP-76-015 (NRCI-76/4, pp 445-84)
VIRGINIA ELECTRIC AND POWER COMPANY
Construction Permit, Compliance; Decision; CPPR-77;CPPR-78; ALAB-324 (NRCI-76/4, pp 347-403)
Construction Permit; Decision; Dockets 50338;50339; ALAB-325 (NRCI-76/4, pp 404-05)
Construction Permit; Order; Dockets 50338;50339; LBP-76-001 (NRCI-76/1, pp 37-8)
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
Construction Permit; Decision; Dockets STN-50460;STN 50513; ALAB-309 (NRCI-76/1, pp 31-2)
WESTINGHOUSE ELECTRIC CORPORATION
Facility, Reactor Export License; Decision; Docket 50474; CLI-76-009 (NRCI-76/6, pp 739-70)

Abbott Laboratories v. Gardner, 387 U.S. 136, 152-3 (1967)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Aberdeen and Rockfish R. Co. v. S.C.R.A.P., 422 U.S. 289, 45 L.Ed.2d 191, 217 (1975)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
Addison v. Holly Hill Fruit Products, 322 U.S. 607 (1944)
grandfathering for antitrust review; LBP-76-002, (NRCI-76/1, pp 39-43)
Aetna Life Ins. Co. of Hartford v. Haworth, 300 U.S. 227 (1937)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Agreement Between the International Atomic Energy Agency, the Government of Spain and the Government of the United States for the Application of Safeguards, T.I.A.S. 6182, Vienna, Austria (December 1966) amended, T.I.A.S. 7856, Vienna, Austria (June 28, 1974)
issuance of facility export license for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Agreement for Cooperation Between the U.S. and Spain, T.I.A.S. 7841, Washington, D.C. (March 20, 1974)
issuance of facility export license for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Alabama Power Company (Farley), CLI-74-012, 7 AEC 203 (1974)
res judicata in administrative proceedings; ALAB-304, B, (NRCI-76/1, pp 1-7)
Allied General Nuclear Services (Barnwell Separations), ALAB-296, NRCI-75/10, p 678 (1975)
contentions delineation for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
Allied-General Nuclear Services (Barnwell Fuel Receiving and Storage), ALAB-328, NRCI-76/4, p 420, 421-3 (April 28, 1976)
intervention standing of utility customer and ratepayer; ALAB-333, (NRCI-76/6, pp 804-08)
American Can Co. v. Citrus Feed Co., 436 F.2d 1125 (5th Cir. 1971)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
American Tobacco Co. v. U.S., 328 U.S. 781 (1946)
antitrust situations inconsistent with laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
Arkansas Power and Light Co. (Arkansas Nuclear), ALAB-094, 6 AEC 25, 31 (1973)
ASLB jurisdiction to impose civil penalties under Atomic Energy Act 186; ALAB-324, G, (NRCI-76/4, pp 389-92)
B.P.I. v. A.E.C., 502 F.2d 424 (D.C. Cir. 1974)
reasoned decision-making responsibilities; ALAB-305, C, (NRCI-76/1, pp 8-13)
Baltimore and O.R.R. v. Aberdeen and R.R.R., 393 U.S. 87, 92 (1968)
reasoned decision-making responsibilities; ALAB-305, C, (NRCI-76/1, pp 8-13)
Bimini Run, LTD v. Belcher Oil Co., 336 F.2d 184 (5th Cir. 1964)
applicant's liability relative to employee knowledge; ALAB-324, F, (NRCI-76/4, pp 377-8)
Blake v. U.S., 323 F.2d 245, 246 (8th Cir. 1963)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Boston Edison Co. (Pilgrim), 4 AEC 666, 668-70 (1971)
statutory requirements for antitrust hearings limited; ALAB-316, B, (NRCI-76/3, pp 168-70)

Boston Edison Co. (Pilgrim), ALAB-231, 8 AEC 633 (1974)
dissenting opinion on pre-LWA activity allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
Boston Edison Co. (Pilgrim), ALAB-269, NRCI-75/4R 411 (April 28, 1975)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
interlocutory appeal status of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
Boston Sand and Gravel Co. v. U.S., 278 U.S. 41, 48 (1928)(Holmes, J.)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Brown v. Elliott, 225 U.S. 392
antitrust conspiracy; LBP-76-005, A, (NRCI-76/2, pp 127-34)
Burnet v. Guggenheim, 288 U.S. 280, 285 (1933)(Cardozo, J.)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Cabell v. Markham, 148 F.2d 737, 739 (2nd Cir.), affirmed, 326 U.S. 404 (1945)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Cady v. Morton, 527 F.2d 786, 795 fn. 9 (DA 9, 1975)
NEPA considerations by licensing ancy; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Caesar's Palace Securities Litigation, 360 F.Supp. 366, 386 Fn. 19 (S.D. N.Y. 1973)
material false statement definition, omission of facts; ALAB-324, C, (NRCI-76/4, pp 358-60)
Calvert Cliffs Coordinating Committee v. A.E.C., 449 F.2d 1109 (D.C. Cir. 1971)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
Calvert Cliffs' Coordinating Committee v. A.E.C., 449 F.2d 1109 (D.C. Cir. 1971)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
NRC authority and responsibilities under NEPA; LBP-76-016, B, (NRCI-76/4, pp 493-4)
relation to spent fuel storage pool licensing contentions; LBP-76-024, (NRCI-76/5, pp 725-38)
Caminetti v. U.S., 242 U.S. 470 (1917)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Cannon v. Accoustics Corp., 398 F.Supp. 209 (N.D. Ill. 1975)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Carolina Environmental Study Group v. U.S., 510 F.2d 796, 800-01 (D.C. Cir. 1975)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
Carolina Power and Light Co. (Shearon Harris), ALAB-184, 7 AEC 229, 234-6 (1974)
criteria for pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
Cass v. U.S., 417 U.S. 72, 77-9 (1974)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Charlton v. F.T.C., -F.2d-, 38 Ad. L.2d 379 (D.C. Cir. 1976)
Special Board responsibilities for attorney disqualification; ALAB-332, C, (NRCI-76/6, pp 792-4)
Chevron Oil Co. v. Huson, 404 U.S. 97 (1971)
ASLB jurisdiction to impose civil penalties under Atomic Energy Act 186; ALAB-324, G, (NRCI-76/4, pp 389-92)
Chugach Electric Assn. v. U.S. District Court, 370 F.2d 441 (9th Cir. 1966)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Church of the Holy Trinity v. U.S., 143-46, 457, 472 (1892)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Cincinnati Gas and Electric Co. (Zimmer), ALAB-079, 5 AEC 342 (1972)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Cincinnati Gas and Electric Co. (Zimmer), ALAB-084, 5 AEC 372 (1972)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Cincinnati Gas and Electric Co. (Zimmer), ALAB-305, NRCI-76/1, p 8 (January 7, 1976)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Citizens for Safe Power v. N.R.C., 524 F.2d 1291 (D.C. Cir. 1975)
ASLB NEPA considerations for intervention, EIS preparation and scope; ALAB-330, A, (NRCI-76/5, pp 613-20)

NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Citizens for Safe Power v. N.R.C., 524 F.2d 1291, 1299-1300 (D.C. Cir. 1975)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
Citizens for Safe Power v. N.R.C., 525 F.2d 1291, 1302-03 (D.C. Cir. 1975)
burden of proof in agency show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
City of Huntingburg v. F.P.C., 498 F.2d 778 (D.C. Cir. 1974)
reasoned decision-making responsibilities; ALAB-305, C, (NRCI-76/1, pp 8-13)
City of New York v. U.S., 337 F.Supp. 150, 159 (E.D.N.Y. 1972)(three-judge court)
dissenting opinion on pre-LWA activity allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
City of New York v. U.S., 337 F.Supp. 150, 163-4 (E.D.N.Y. 1972)(three-judge court)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
City of Statesville v. A.E.C., 441 F.2d 962 (1969) (in banc)
pre-licensing antitrust review, grandfather clause; ALAB-323, C, (NRCI-76/4, pp 337-43)
Cohen v. Beneficial Industrial Loan Corp., 337 U.S. 541 (1949)
appellate status of attorney suspension or disqualification by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
Cohen v. Beneficial Industrial Loan Corp., 337 U.S. 541, 545-7 (1949)
declaratory relief, appeal rights; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Commonwealth Edison Co. (Braidwood Station, LBP-75-001, 8 AEC 1197, 1200-01 (1975)
redressability of pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
Commonwealth Edison Co. (Byron Station), LBP-74-087, 8 AEC 1006, 1008-9 (1974)
redressability of pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
Commonwealth Edison Co. (LaSalle), ALAB-193, 7 AEC 423, 426-8 (1974)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Commonwealth Edison Co. (Zion Station), ALAB-116, 6 AEC 258 (1973)
appellate status of discovery order against non-party; ALAB-311, B, (NRCI-76/2, pp 87-8)
Commonwealth Edison Co. (Zion), ALAB-226, 8 AEC 381, 406 (1974)
contentions requirement for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
Consolidated Edison Co. of New York (Indian Point), ALAB-186, 7 AEC 245, 247 fn. 3 (1974)
initial decision appeal period change effectiveness; ALAB-310, (NRCI-76/1, pp 33-5)
Consolidated Edison Co. of New York (Indian Point), ALAB-197R, 7 AEC 825, 830 (1974)
cross examination limitation by ASLB (security plans); ALAB-334, C, (NRCI-76/6, pp 816-17)
Consolidated Edison Co. of New York (Indian Point), ALAB-281, NRCI-75/7, p 6 (July 11, 1975)
initial decision appeal period change effectiveness; ALAB-310, (NRCI-76/1, pp 33-5)
Consolidated Edison Co. of New York (Indian Point), CLI-74-028, 8 AEC 7 (1974)
low-power testing authorized for Beaver Valley 1 in contested hearing; LBP-76-003, A, (NRCI-76/1, pp 44-72)
Consolidated Theaters, Inc. v. Warner Bros. Circuit Mgt. Corp., 216 F.2d 920, 924-5 (2d Cir. 1954)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Consumers Power Co. (Big Rock), CLI-75-010, NRCI-76/8, p 188 (August 11, 1975)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Consumers Power Co. (Midland), ALAB-035, 4 AEC 711 (1971)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Consumers Power Co. (Midland), ALAB-122, 6 AEC 322 (1973)
appealability of ASLB denial of pre-LWA railroad construction; ALAB-331, B, (NRCI-76/6, p 774)

appellate status of discovery order against non-party; ALAB-311, B, (NRCI-76/2, pp 87-8)
Consumers Power Co. (Midland), ALAB-123, 6 AEC 331, 332 (1973)
intervenor default for lack of participation; LBP-76-007, B, (NRCI-76/2, pp 156-8)
Consumers Power Co. (Midland), ALAB-123, 6 AEC 331, 345 (1973)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Consumers Power Co. (Midland), ALAB-152, 6 AEC 816, 818 (1973)
ASLAB interpretive powers for regulations involving safety; ALAB-308, C, (NRCI-76/1, pp 25-26)
Consumers Power Co. (Midland), ALAB-235, 8 AEC 645, 646 (1974)
scope of ASLB jurisdiction over adjudicatory hearings; ALAB-316, C, (NRCI-76/3, pp 170-4)
Consumers Power Co. (Midland), ALAB-283, NRCI-75/7, p 17 (July 30, 1975)
burden of proof in agency show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
Consumers Power Co. (Midland), CLI-74-005, 7 AEC 19, 31 (1974)
burden of proof in agency show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
Consumers Power Co. (Midland), CLI-74-007, 7 AEC 147, 148 (1974)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Cord v. Smith, 338 F.2d 516 (9th Cir. 1964)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
Cox v. Roth, 348 U.S. 207 (1955)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Davis, Administrative Law Treatise, Vol. 3, Ch. 22-Standing (1958)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Day v. NTSB, 414 F.2d 950 (5th Cir. 1969)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Detroit Edison Co. (Greenwood), ALAB-247, 8 AEC 936 (1974)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
NRC authority and responsibilities under NEPA; LBP-76-016, B, (NRCI-76/4, pp 493-4)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
transmission line routing as construction permit issue; LBP-76-026, (NRCI-76/6, pp 857-949)
Doe v. A. Corp., 330 F.Supp. 1352, 1356 (S.D.N.Y. 1971)
attorney disqualification conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Dow Chemical Co. v. Ruckelshaus, 477 F.2d 1317, 1324 (8th Cir. 1973)
burden of proof in administrative hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Duke Power Co. (Catawba), LBP-74-005, 7 AEC 82 (1974)
res judicata in administrative proceedings; ALAB-304, B, (NRCI-76/1, pp 1-7)
Duke Power Co. (McGuire), ALAB-128, 6 AEC 399, 401 (1973)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Duke Power Co. (Oconee), 4 AEC 592 (1971)
statutory requirements for antitrust hearings limited; ALAB-316, B, (NRCI-76/3, pp 168-70)
Duquesne Light Co. (Beaver Valley), ALAB-105, 6 AEC 181 (1973)
intervention requirements for operating license proceeding; ALAB-305, C, (NRCI-76/1, pp 8-13)
Duquesne Light Co. (Beaver Valley), ALAB-109, 6 AEC 243, 244 (1973)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
Duquesne Light Co. (Beaver Valley), ALAB-109, 6 AEC 243, 244 n.2 (1973)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Duquesne Light Co. (Beaver Valley), ALAB-109, 6 AEC 243, 245 (1973)
contentions requirement for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
Duquesne Light Co. (Beaver Valley), ALAB-109, 6 AEC 244 (1973)

intervention, scope of contentions review; LBP-76-014, B, (NRCI-76/4, pp 431-2)
Duquesne Light Co. (Beaver Valley), LBP-74-025, 7 AEC 711, 718 (1974)
initial decision format; LBP-76-003, B, (NRCI-76/1, pp 44-72)
E.F. Hutton and Co. v. Brown, 305 F.Supp. 371, 394-5 (S.D. Tex. 1969)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
East Tennessee Energy Group v. Seamans, 7 ERC 2144 (D.C. Cir. 1975)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Easton Utilities Commission v. A.E.C., 424 F.2d 847, 851-2 (D.C. Cir. 1970)
non-party discovery rights; ALAB-311, C, (NRCI 76/2, pp 88-90)
Ecology Action v. A.E.C., 492 F.2d 998, 1001-02 (2d. Cir. 1974)
criteria for directed certification of intervention contentions; ALAB-326, B, (NRCI-76/4, pp 406-07)
Edlow International Co. (Tarapur), CLI-76-006, NRCI-76/5, p 563 (May 7, 1976)
intervention standing of utility customer and ratepayer; ALAB-333, (NRCI-76/6, pp 804-08)
Edlow International Co. (Tarapur), CLI-76-006, NRCI-76/5, pp 563 at 592-3 (May 7, 1976)
guidelines for export licensing determination; CLI-76-009, B, (NRCI-76/6, pp 739-70)
Emle Industries, Inc. v. Patentex, Inc., 478 F.2d 562 (2d Cir. 1973)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Environmental Defense Fund v. Corps of Engineers, 348 F.Supp. 916, 933 (N.D. Miss. 1972), affirmed, 492 F.2d 1123 (5th Cir. 1974)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Environmental Defense Fund v. Corps of Engineers, 492 F.2d 1123, 1135 (5th Cir. 1974)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Environmental Defense Fund v. Froehlke, 473 F.2d 346, 353 (8th Cir. 1972)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Environmental Defense Fund v. Ruckelshaus, 439 F.2d 584 (D.C. Cir. 1971)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Environmental Defense Fund v. Ruckelshaus, 439 F.2d 584, 593 (D.C. Cir. 1971)
burden of proof in administrative hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Environmental Survey of the Uranium Fuel Cycle, U.S.A.E.C., WASH-1248, April 1974
Nepa requirements for export licensing; CLI-76-006, D, (NRCI-76/5, pp 584-5)
Ex Parte Levitt, 302 U.S. 633 (1937)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Final Environmental Impact Statement on United States Nuclear Power Export Activities, ERDA-1542, April 1976
Nepa requirements for export licensing; CLI-76-006, D, (NRCI-76/5, pp 584-5)
Flast v. Cohen, 392 U.S. 83, 114 (1968)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Fleischer v. A.A.P., Inc., 163 F.Supp. 548 (S.D.N.Y. 1958)
attorney disqualification conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Ford Motor Co. v. Mathis, 322 F.2d 267, 274 (5th Cir. 1963)
ex parte telephone communication, simplification of issues; ALAB-334, B, (NRCI-76/6, pp 814-15)
Frothingham v. Mellon, 262 U.S. 447, 488 (1923)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Fullmer v. Harper, 517 F.2d 20 (10th Cir. 1975)
appellate status of attorney suspension or disqualification by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
attorney ethical charges require hearing; ALAB-332, F, (NRCI-76/6, pp 800-02)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
Gage v. A.E.C., 479 F.2d 1214, 1220 fn. 19 (D.C. Cir. 1973)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)

Gage v. A.E.C., 479 F.2d 1214, 1220, fn. 19 (D.C. Cir. 1973)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
Georgia Power Co. (Vogtle), ALAB-291, NRCI-75/9, p 404, 412-13 (September 24, 1975)
steam generator tube integrity; ALAB-312, (NRCI-75/2, pp 91-3)
unresolved steam generator tube integrity at construction stage; ALAB-306, (NRCI-76/1, pp 14-16)
Georgia Power Co. (Vogtle), ALAB-291, NRCI-75/9, p 404, 413 (September 24, 1975)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Gifford-Hill and Co., Inc. v. F.T.C., 523 F.2d 730 (D.C. Cir. 1975)
intervention standing of utility customer and ratepayer; ALAB-333, (NRCI-76/6, pp 804-08)
Gilbertsville Trucking Co. v. U.S., 196 F.S. 359 (1961)
initial decision format; LBP-76-003, B, (NRCI-76/1, pp 44-72)
Goldsmith v. U.S. Board of Tax Appeal, 270 U.S. 117, 123 (1926)
attorney disqualification, evidentiary hearing right; ALAB-332, F, (NRCI-76/6, pp 800-02)
Gonzalez v. U.S., 286 F.2d 118, 122 (10th Cir. 1960)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Grand Island Grain v. Roush Mobile Home Sales, Inc., 391 F.2d 35, 41 (8th Cir. 1968)
cross examination relative to hypothetical questions; ALAB-334, C, (NRCI-76/6, pp 816-17)
Greater Boston Television Corp. v. F.C.C., 444 F.2d 841, 851-3 (D.C. Cir. 1970), cert. denied, 403 U.S. 923 (1971)
reasoned decision-making responsibilities; ALAB-305, C, (NRCI-76/1, pp 8-13)
Green Co. Planning Board v. F.P.C., 455 F.2d 412 (2nd Cir. 1972)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Greene v. Singer Co., 509 F.2d 750 (3rd Cir. 1971)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
Gulf Oil, Inc., Notice of Application for and Consideration of Issuance of Facility Export License, Docket 50411, 38 Fed. Reg. 3000 (January 31, 1973)
Commission jurisdiction over foreign health-and-safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Gulf States Utilities Co. (River Bend), ALAB-183, 7 AEC 222, 226 fn. 10 (1974)
initiation of operating license proceeding; ALAB-305, B, (NRCI-76/1, pp 8-13)
Gulf States Utilities Co. (River Bend), ALAB-183, 7 AEC 222, 227 fn. 11 (1974)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
Gulf States Utilities Co. (River Bend), ALAB-183, 7 AEC 222, 227-8 (1974)
hearing in public interest; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Gulf States Utilities Co. (River Bend), ALAB-329, NRCI-76/5 607 (May 10, 1976)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
Harrison v. Northern Trust Co., 317 U.S. 476, 479 (1943), accord, U.S. American Trucking Assn., 310 U.S. 534, 543-4 (1940)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Hecht v. Pro-Football, Inc., 444 F.2d 931 (D.C. Cir. 1971)
grandfathering for antitrust review; LBP-76-002, (NRCI-76/1, pp 39-43)
Henry v. F.P.C., 513 F.2d 395 (1975)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Henry V. F.P.C., 513 F.2d 395, 405-07 (1975)
criteria for directed certification of intervention contentions; ALAB-326, B, (NRCI-76/4, pp 406-07)
Herman v. Dulles, 205 F.2d 715 (D.C. Cir. 1953)
agency jurisdiction over attorney conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
Highway Const. Co. v. City of Miami, 126 F.2d 777, 780-1 (5th Cir.), cert. denied, 317 U.S. 643 (1942)

ex parte telephone communication, simplification of issues; ALAB-334, B, (NRCI-76/6, pp 814-15)
Hills v. Whitlock Oil Services, 450 F.2d 170 (10th Cir. 1971)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Houston Lighting and Power Co. (South Texas Project), ALAB-306, NRCI-76/1, p 14 (January 14, 1976)
steam generator tube integrity; ALAB-312, (NRCI-75/2, pp 91-3)
Hyde v. U.S., 225 U.S. 347
antitrust conspiracy; LBP-76-005, A, (NRCI-76/2, pp 127-34)
International Harvester Co. v. Ruckelshaus, 478 F.2d 615, 648 (D.C. Cir. 1973)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-279, NRCI-75/6 559, 574-5 (1975)
intervention criteria for antitrust hearings; LBP-76-020, (NRCI-76/5, pp 657-61)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-279, NRCI-75/6, 559 (1975)
pre-licensing antitrust review, grandfather clause; ALAB-323, C, (NRCI-76/4, pp 337-43)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-279, NRCI-75/6, 559, 576-7 (1975)
requirements for intervention format; LBP-76-010, C, (NRCI-76/3, pp 209-22)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-279, NRCI-75/6, p 565-6 (June 30, 1975)
statutory requirements for antitrust hearings limited; ALAB-316, B, (NRCI-76/3, pp 168-70)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-299, NRCI-75/11, p 740, 749-50 (1975)
intervention criteria for antitrust hearings; LBP-76-020, (NRCI-76/5, pp 657-61)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-321, NRCI-76/4, 293, 311 (April 7, 1976)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-321, NRCI-76/4, p 293 (1976)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
Kansas Gas and Electric Co. (Wolf Creek), ALAB-331, NRCI-76/6, p 771 (1976)(Commission review pending)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
Kitchen v. F.C.C., 464 F.2d 801 (D.C. Cir. 1972)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
Kleppe v. Sierra Club, -U.S.-, (Nos. 75-552 and 75-561, decide June 28, 1976, slip opinion p. 17, fn. 21)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
Klor's v. Broadway-Hale Stores, 359 U.S. 207(1959)
antitrust situations inconsistent with laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
Krulewich v. U.S., 336 U.S. 440 (1949)
antitrust conspiracy; LBP-76-005, A, (NRCI-76/2, pp 127-34)
Langroise v. Cummings, 123 F.2d 969, 974 (9th Cir. 1941), cert. denied, 316 U.S. 664 (1942)
ex parte telephone communication, simplification of issues; ALAB-334, B, (NRCI-76/6, pp 814-15)
Leyden v. FAA, 315 F.Supp. 1398 (E.D.N.Y. 1970)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Long Island Lighting Co. (Jamesport), ALAB-292, 2 NRC 631, 646 (1975)
untimely antitrust intervention considerations; LBP-76-025, (NRCI-76/6, pp 847-56)
Long Island Lighting Co. (Jamesport), ALAB-292, NRCI-75/10, p 631 (October 2, 1975)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Long Island Lighting Co. (Jamesport), ALAB-292, NRCI-75/10, p 631, 637-43 (October 2, 1975)

intervention standing of utility customer and ratepayer; ALAB-333, (NRCI-76/6, pp 804-08)
Long Island Lighting Co. (Shoreham), ALAB-156, 6 AEC 831 (1973)
appellate policy for briefing exceptions by category; ALAB-335, B, (NRCI-76/6, pp 832)
Long Island Lighting Co. (Shoreham), Docket 50322, Order, January 28, 1971
ASLB chairman change during evidentiary proceeding; LBP-76-004, B, (NRCI-76/2, pp 123-26)
Louisiana Power and Light Co. (Waterford), ALAB-125, 6 AEC 371, 372 (1973)
contentions requirement for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
Louisiana Power and Light Co. (Waterford), ALAB-168, 6 AEC 1155 (1973)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
exceptions to interlocutory appeals; CLI-76-001, B, (NRCI-76/2, pp 73-5)
interlocutory appeal status of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
Louisiana Power and Light Co. (Waterford), ALAB-242, 8 AEC 847 (1974)
dissenting opinion on pre-LWA activity allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
Louisiana Power and Light Co. (Waterford), CLI-73-007, 6 AEC 48, 50 (1973)
pre-licensing antitrust review, grandfather clause; ALAB-323, C, (NRCI-76/4, pp 337-43)
Louisiana Power and Light Co. (Waterford), CLI-73-007, 6 AEC 48, 50 fn. 2 (1973)
prelicensing antitrust review provisions; ALAB-316, B, (NRCI-76/3, pp 168-70)
Louisiana Power and Light Co. (Waterford), CLI-73-007, 6 AEC 48-9 (1973)
intervention criteria for antitrust hearings; LBP-76-020, (NRCI-76/5, pp 657-61)
Louisiana Power and Light Co. (Waterford), CLI-73-025, 6 AEC 619, 621 (1973)
intervention criteria for antitrust hearings; LBP-76-020, (NRCI-76/5, pp 657-61)
Louisiana Power and Light Co. (Waterford), CLI-73-025, 6 AEC 619, 621-2 (1973)
pre-licensing antitrust review, grandfather clause; ALAB-323, C, (NRCI-76/4, pp 337-43)
Louisiana v. F.P.C., 503 F.2d 844, 871
initial decision format; LBP-76-003, B, (NRCI-76/1, pp 44-72)
Maine Yankee Atomic Power Co. (Maine Yankee), ALAB-161, 6 AEC 1003, 1010 (1973)
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
Marco v. Dulles, 169 F.Supp. 622, 629-30 (S.D.N.Y. 1959)
attorney disqualification conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Marketti v. Fitzsimmons, 373 F.Supp. 637, 639 (W.D. Wisc. 1974)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Maryland-National Capital Park and Planning Commission v. U.S. Postal Service, 487 F.2d 1029 (D.C. Cir. 1973)
contentions delineation for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
McKee v. Bradway, 19 Ad.L.2d 715 (CAB 1966)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Mildner v. Gulotta, 405 F.Supp. 182 (E.D.N.Y. 1975)
attorney disqualification, evidentiary hearing right; ALAB-332, F, (NRCI-76/6, pp 800-02)
Ming, 469 F.2d 1352, 1356 (7th Cir. 1972)
attorney disqualification, evidentiary hearing right; ALAB-332, F, (NRCI-76/6, pp 800-02)
Mississippi Power and Light Co. (Grand Gulf), ALAB-130, 6 AEC 423, 424 (1973)
contentions requirement for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
Mississippi Power and Light Co. (Grand Gulf), ALAB-130, 6 AEC 423, 426 (1973)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
Missouri Pacific R.R. Co. v. Winburn Tile Mfg. Co., 461 F.2d 984, 988 (8th Cir. 1972)
applicant's liability relative to employee knowledge; ALAB-324, F,

(NRCI-76/4, pp 377-8)
Mistrot M. Sullivan, dba Southwestern Radiological Service Co., 2 AEC 1 (Hearing Examiner, 1962)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Montana Power Co. v. F.P.C., 445 F.2d 739, 746 (D.C. Cir. 1970)(in banc), cert. denied, 400 U.S. 1013 (1971)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Montana Power Commission v. F.P.C., 445 F.2d 739 (D.C. Cir. 1970)
grandfathering for antitrust review; LBP-76-002, (NRCI-76/1, pp 39-43)
Montgomery Ward and Co. v. Medline, 104 F.2d 485 (4th Cir. 1939)
ex parte telephone communication, simplification of issues; ALAB-334, B, (NRCI-76/6, pp 814-15)
Motor Mart, Inc. v. Saab Motors, Inc., 359 F.Supp. 156 (S.D.N.Y. 1973)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Myers v. Weinberger, 514 F.2d 293, 294 (6th Cir. 1975)
cross examination relative to hypothetical questions; ALAB-334, C, (NRCI-76/6, pp 816-17)
N.L.R.B. v. Suburban Lumber Co., 121 F.2d 829, 832 (3rd Cir. 1941)
pre-LWA activity authorization; ALAB-331, C, (NRCI-76/6, pp 775-6)
N.L.R.B. v. Tennesco Corp., 339 F.2d 396, 399 (6th Cir. 1954)
material false statement definition, omission of facts; ALAB-324, C, (NRCI-76/4, pp 358-60)
N.R.D.C. v. E.P.A., 507 F.2d 905 (9th Cir. 1974)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
N.R.D.C. v. E.P.A., 507 F.2d 905, 908-11 (9th Cir. 1974)
intervention in construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
N.R.D.C. v. Morton, 458 F.2d 827 (D.C. Cir. 1972)
ASLB NEPA considerations for intervention, EIS preparation and scope; ALAB-330, A, (NRCI-76/5, pp 613-20)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
N.R.D.C. v. Morton, 458 F.2d 827, 834 (D.C. Cir. 1972)
criteria for pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
Nash v. U.S., 229 U.S. 373, 378 (1913)
antitrust conspiracy; LBP-76-005, A, (NRCI-76/2, pp 127-34)
Nashville, Chattanooga and St. Louis Railway v. Wallace, 288 U.S. 249, 259 (1933)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
National R.R. Passenger Corp. v. Passenger Assn., 414 U.S. 453, 458 (1974)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
National Resources Defense Council v. Callaway, 524 F.2d 79, 92 (2nd Cir. 1975)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
New Hampshire v. A.E.C., 406 F.2d 170, 175 (1st Cir.), cert. denied, 395 U.S. 962 (1969)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
New York Shipbuilding Corp., 1 AEC 707 (1961), reversed on other grounds, 1 AEC 842 (1961)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Niagara Mohawk Power Co. (Nine Mile Point), ALAB-264, NRCI-75/4R 347, 355 (April 8, 1975)
administrative prosecution requires no surprise charges; ALAB-324, E, (NRCI-76/4, p 368 fn. 24)
Niagara Mohawk Power Corp. (Nine Mile Point), ALAB-264, NRCI-75/4R 347, 356-7 (April 8, 1975)
material false statement definition, omission of facts; ALAB-324, C, (NRCI-76/4, pp 358-60)
Niagara Mohawk Power Corp. (Nine Mile Point), LBP-74-043, 7 AEC 1074-5 (1974)
need for power as construction permit issue; LBP-76-026, (NRCI-76/6, pp 857-949)
North Anna Environmental Coalition v. U.S. N.R.C., F.2d, 8 ERC 1771 (March 3, 1976), rehearing in banc denied (April 7, 1976)
sanctions for material false statements in construction permit application;

ALAB-324, A, (NRCI-76/4, pp 347-403)
Northern Indiana Public Service Co. (Bailly), ALAB-207, 7 AEC 957 (1974)
appellate policy for briefing exceptions; ALAB-335, B, (NRCI-76/6, pp 832)
Northern Indiana Public Service Co. (Bailly), ALAB-224, 8 AEC 244, 250 (1974)
intervenor default for lack of participation; LBP-76-007, B, (NRCI-76/2, pp 156-8)
Northern Indiana Public Service Co. (Bailly), ALAB-249, 8 AEC 980, 987 (1974)
scope of ASLB jurisdiction over adjudicatory hearings; ALAB-316, C, (NRCI-76/3, pp 170-4)
Northern Indiana Public Service Co. v. Walton League, 423 U.S. 12 (1975)
exclusion area and low-population-zone considerations; ALAB-335, C, (NRCI-76/6, pp 833-4)
Northern States Power Co. (Prairie Island), ALAB-104, 6 AEC 179 (1973)
intervention requirements for operating license proceeding; ALAB-305, C, (NRCI-76/1, pp 8-13)
Northern States Power Co. (Prairie Island), ALAB-107, 6 AEC 188 (1973)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
intervention, scope of contentions review; LBP-76-014, B, (NRCI-76/4, pp 431-2)
Northern States Power Co. (Prairie Island), ALAB-107, 6 AEC 188, 193 (1973)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
Northern States Power Co. (Prairie Island), ALAB-107, 6 AEC 188, 194 (1973)
contentions requirement for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
Northern States Power Co. (Prairie Island), ALAB-252, 8 AEC 1175, 1177 (1975)
reconsideration of burden of proof in show cause proceeding; ALAB-315, A, (NRCI-76/2, pp 101-112)
Northern States Power Co. (Prairie Island), ALAB-284, NRCI-75/8, p 197 (August 11, 1975)
steam generator tube integrity; ALAB-312, (NRCI-75/2, pp 91-3)
steam generator tube integrity during construction licensing; LBP-76-023, (NRCI-76/5, pp 711-24)
unresolved steam generator tube integrity at construction stage; ALAB-306, (NRCI-76/1, pp 14-16)
Northern States Power Co. (Prairie Island), ALAB-288, NRCI-75/9, p 390 (September 17, 1975)
intervenor default for lack of participation; LBP-76-007, B, (NRCI-76/2, pp 156-8)
Nuclear Fuel Services (West Valley Reprocessing), CLI-75-004, 1 NRC 273, 275 (1975)
untimely antitrust intervention considerations; LBP-76-025, (NRCI-76/6, pp 847-56)
Nuclear Fuel Services (West Valley Reprocessing), CLI-75-004, NRCI-75/4R, 273 (1975)
intervention in construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
Nuclear Fuel Services (West Valley), CLI-75-004, NRCI-75/4R, p 273, 275 (April 1975)
untimely intervention petitions; ALAB-304, A, (NRCI-76/1, pp 1-7)
Old Ben Coal Corp. v. Interior Board of Mine Operations Appeals, 523 F.2d 25, 34-7, rehearing and rehearing in banc denied, 523 F.2d 39 (7th Cir. 1975)
burden of proof in administrative hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Old Ben Coal Corp. v. Interior Board of Mine Operations Appeals, 523 F.2d 25, rehearing denied, 523 F.2d 39 (7th Cir. 1975)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
P.R.D.C. v. Electric Workers, 367 U.S. 396, 409 (1961)
status of regulatory guides in licensing; LBP-76-014, C, (NRCI-76/4, p 432)
P.R.D.C. v. Electrical Workers, 367 U.S. 396, 402 (1961)
safety issues as show-cause justification; ALAB-315, B, (NRCI-76/2, pp 103-104)
Pauling v. McNamara, 331 F.2d 796 (D.C. Cir. 1964)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)

Philadelphia Electric Co. (Fulton), ALAB-206, 7 AEC 841 (1974)
interlocutory appeal status of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
Philbrook v. Goldgett, 421 U.S. 707, 713 (1975)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Portland General Electric Co. (Pebble Springs), ALAB-273, NRCI-75/5, 492, 494 (1975)
intervention petition criteria; ALAB-305, A, (NRCI-76/1, pp 8-13)
Portland General Electric Co. (Pebble Springs), ALAB-273, NRCI-75/5, p 492-4 (May 28, 1975)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Potomac Electric Power Co. (Douglas Point), ALAB-176, 7 AEC 151 (1974)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
interlocutory appeal status of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
Potomac Electric Power Co. (Douglas Point), ALAB-218, 8 AEC 79, 82-3 (1974)
initial decision appeal period change effectiveness; ALAB-310, (NRCI-76/1, pp 33-5)
Potomac Electric Power Co. (Douglas Point), ALAB-218, 8 AEC 79, 85, 89 (1974)
intervention, scope of contentions review; LBP-76-014, B, (NRCI-76/4, pp 431-2)
Potomac Electric Power Co. (Douglas Point), ALAB-277, NRCI-75/6 (June 18, 1976)
criteria for questioning radioactive waste disposal and related fuel cycle items; LBP-76-009, (NRCI-76/3, pp 205-08)
Poulos v. U.S., 387 F.2d 4, 6 (10th Cir. 1968)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Power Reactor Development Co. v. Electrical Union, 367 U.S. 396, 404 (1961)
staff duties and responsibilities for public safety in licensing; ALAB-324, A, (NRCI-76/4, pp 347-403)
Public Service Co. of Indiana (Marble Hill), ALAB-316, NRCI-76/3, p 167, 168-70 (March 3, 1976)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Public Service Co. of New Hampshire (Seabrook), ALAB-271, NRCI-75/5, p 478 (May 21, 1975)
directed certification and remand of protective order of fuel contract information; ALAB-327, A, (NRCI-76/4, pp 408-19)
directed certification of ASLB disqualification motion; ALAB-313, A, (NRCI-76/2, pp 94-7)
Public Service Co. of New Hampshire (Seabrook), ALAB-271, NRCI-75/5, p 478, 482-3 (May 21, 1975)
discovery status of nuclear fuel supply contract; ALAB-307, (NRCI-76/1, pp 17-19)
Public Service Gas and Electric Co. (Salem), ALAB-136, 6 AEC 487, 489 (1973)
requirements for intervention format; LBP-76-010, C, (NRCI-76/3, pp 209-22)
Puerto Rico Water Resources Authority (North Coast), ALAB-313, NRCI-76/2, p 94, 96 (1976)
ex parte telephone communication, simplification of issues; ALAB-334, B, (NRCI-76/6, pp 814-15)
Richards v. U.S., 369 U.S. 1, 11 (1962)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Richardson v. Hamilton International Corp., 469 F.2d 1382, 1385 (3rd Cir. 1972)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Robles v. U.S., 279 F.2d 401, 404 (9th Cir. 1960)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Rodale Press v. F.T.C., 407 F.2d 1252, 1256-7 (D.C. Cir. 1968)
material false statement definition, omission of facts; ALAB-324, C, (NRCI-76/4, pp 358-60)
S.E.C. v. Chenery Corp., 318 U.S. 80, 94 (1943) (Frankfurter, J.)
reasoned decision-making responsibilities; ALAB-305, C, (NRCI-76/1, pp 8-13)
Schlesinger v. Reservists to Stop the War, 418 U.S. 208, 217-19 (1974)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Schwebel v. Orrick, 153 F.Supp. 701, 704 (D.D.C. 1957) aff'd per curiam on

other grounds, 251 F.2d 919 (D.C. Cir.), cert. denied, 356 U.S. 927 (1958)
agency jurisdiction over attorney conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
Scientists' Institute for Public Information v. A.E.C., 156 U.S. App. D.C. 395, 481 F.2d 1079 (1973)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Scientists' Institute for Public Information v. A.E.C., 481 F.2d 1079 (D.C. Cir. 1973)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Scientists' Institute for Public Information v. A.E.C., 481 F.2d 1079, 1091-2 (D.C. Cir. 1973)
NRC authority and responsibilities under NEPA; LBP-76-016, B, (NRCI-76/4, pp 493-4)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
Scientists' Institute for Publication Information v. A.E.C., 481 F.2d 1079, 1087-8, 1092-3 (1973)
ASLB NEPA considerations for intervention, EIS preparation and scope; ALAB-330, A, (NRCI-76/5, pp 613-20)
SEC v. Capital Gains Research Bureau, 374 U.S. 180, 198 (1963)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
Securities and Exchange Comn. v. Texas Gulf Sulphur Co., 401 F.2d 833, 849 (2nd Cir. 1968), cert. denied, 394 U.S. 976 (1969)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Shelley v. The Maccabees, 184 F.Supp. 797, 800 (E.D.N.Y. 1960)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Siegel v. A.E.C., 400 F.2d 778 (D.C. Cir. 1968)
Commission jurisdiction over foreign health-and-safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Sierra Club v. Morton, 405 U.S. 727 (1972)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
Sierra Club v. Morton, 405 U.S. 727, 739 (1972)
intervention in construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
intervention petition criteria; ALAB-305, A, (NRCI-76/1, pp 8-13)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Sierra Club, et al. v. A.E.C., (U.S.D.C., D.C., Civil Action No. 1867-73)
issuance of facility export license for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp., 496 F.2d 800 (2d Cir. 1974)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp., 496 F.2d 800 (2nd Cir. 1974)
appellate status of attorney suspension or disqualification by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp., 518 F.2d 751 (2d Cir. 1975)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp., 518 F.2d 751, 753 (2d Cir. 1975)
attorney ethical charges require hearing; ALAB-332, F, (NRCI-76/6, pp 800-02)
Southern California Edison Co. (San Onofre), ALAB-199, 7 AEC 478 (1974)
emergency stay granting criteria pending judicial review; CLI-76-002, B, (NRCI-76/2, pp 76-81)
Southern California Edison Co. (San Onofre), ALAB-212, 7 AEC 986, 996-7 (1974)
LWA status pending alternative-site remand resolution; ALAB-335, D, (NRCI-76/6, pp 842-6)
Southern California Edison Co. (San Onofre), ALAB-248, 8 AEC 957 (1974)
ASLB NEPA licensing considerations scope; LBP-76-018, (NRCI-76/5, pp 627-51)
Southern California Edison Co. (San Onofre), ALAB-248, 8 AEC 957, 958-66 (1974)

exclusion area and low-population-zone considerations; ALAB-335, C, (NRCI-76/6, pp 833-4)
Southern California Edison Co. (San Onofre), ALAB-268, 1 NRC 383 (1975)
exclusion area and low-population-zone considerations; ALAB-335, C, (NRCI-76/6, pp 833-4)
Southern California Edison Co. (San Onofre), ALAB-268, NRCI-75/4R, p 383, 400 (1975)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
Southern National Mfg. Co. v. E.P.A., 470 F.2d 194, 196-7 (8th Cir. 1972)
burden of proof in administrative hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Standard Oil Co. v. U.S., 221 U.S. 1
antitrust conspiracy; LBP-76-005, A, (NRCI-76/2, pp 127-34)
Stearns Elec. Paste Co. v. E.P.A., 461 F.2d 293, 304-05 (7th Cir. 1972)
burden of proof in administrative hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Stearns Elec. Paste Co. v. E.P.A., 461 F.2d 293, 305 N. 38 (7th Cir. 1972)
burden of proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
T.C. Theatre Corp. v. Warner Bros. Pictures, 113 F.Supp. 265, 268 (S.D.N.Y. 1953)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Telos v. Hawaiian Telephone Co., 397 F.Supp. 1314, 1315-16 (D. Hawaii 1975)
attorney conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
Tennessee Valley Authority (Browns Ferry), LBP-73-029, 6 AEC 82 (19)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Texas Utilities Generating Co. (Comanch Peak), ALAB-260, 1 NRC 51, 54 (1975)
criteria for pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
Toledo Edison Co. (Davis-Besse), ALAB-314, NRCI-76/2, p 98 (February 26, 1976)
denial of directed certification for interlocutory discovery rulings; ALAB-318, A, (NRCI-76/3, pp 186-7)
U.S. v. Balint, 258 U.S. 250
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
U.S. v. Boisdore's Heirs, 49 U.S. (8 How.) 113, 122 (1850)(Taney, Ch. J.)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
U.S. v. Concentrated Phosphate Export Assn., 273 F.Supp. 263 (S.D.N.Y. 1967)
grandfathering for antitrust review; LBP-76-002, (NRCI-76/1, pp 39-43)
U.S. v. Dotterweich, 320 U.S. 277, 281, 88L.ed 48, 51, 64 S.Ct. 113
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
U.S. v. Evans, 333 U.S. 483, 486-7 (1948)
antitrust statute interpretation; ALAB-323, A, (NRCI-76/4, pp 331-46)
U.S. v. Garcia, 517 F.2d 272 (5th Cir. 1975)
appellate status of attorney suspension or disqualification by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
U.S. v. Griffith, 334 U.S. 100 (1948)
antitrust situations inconsistent with laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
U.S. v. Krause, 507 F.2d 113, 118 (5th Cir. 1975)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
U.S. v. McGough, 510 F.2d 598, 602 (5th Cir. 1975)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
U.S. v. Paramount Pictures, 334 U.S. 131 (1948)
antitrust situations inconsistent with laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
U.S. v. Park, 421 U.S. 658 (1975)
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
U.S. v. Parke, Davis and Co., 362 U.S. 29 (1960)
antitrust situations inconsistent with laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
U.S. v. Richardson, 418 U.S. 166, 179-80, 188-93 (1974) (Powell, J., concurring)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
U.S. v. S.C.R.A.P., 412 U.S. 669, 688 (1973)

intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
U.S. v. Standard Oil Co., 136 F.Supp. 345, 364 (S.D.N.Y. 1955)(dictum)
attorney disqualification conduct; ALAB-332, E, (NRCI-76/6, pp 797-9)
U.S. v. United Mine Workers of America, 330 U.S. 258 (1947)
agency determination of its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
U.S. v. Wisenfeld Warehouse Co., 376 U.S. 86 (1964)
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
Unexcelled Chemical Corp. v. U.S., 345 U.S. 59 (1953)
grandfathering for antitrust review; LBP-76-002, (NRCI-76/1, pp 39-43)
Union of Concerned Scientists v. A.E.C., 499 F.2d 1069, 1077 (D.C. Cir. 1974)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
Union of Concerned Scientists v. A.E.C., 499 F.2d 1069, 1079 (D.C. Cir. 1974)
Commission jurisdiction over foreign health-and-safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
United Church of Christ v. F.C.C., 359 F.2d 994 (D.C. Cir. 1966)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
United Church of Christ v. F.C.C., 425 F.2d 543, 546-50 (1969)
burden of proof in agency show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
United States v. International Business Machines Corp., 67 F.R.D. 40, 46 S.D.N.Y. 1975
protective order for disclosure of private commercial information; ALAB-327, D, (NRCI-76/4, pp 413-15)
United States v. King, 395 U.S. 1 (1969)
declaratory relief in agency proceedings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
United States v. Monia, 317 U.S. 424, 431-2 (1943)(Frankfurter, J., dissenting)
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-124, 6 AEC 358, 362 fn. 4 (1973)
initial decision appeal period change effectiveness; ALAB-310, (NRCI-76/1, pp 33-5)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-126, 6 AEC 393, 396 (1973)
remand policy for interim stay of any negative ASLB order pending chance for appeal; ALAB-327, A, (NRCI-76/4, pp 408-19)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-138, 6 AEC 520, 532 (additional views of Mr. Farrar) (1973)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-179, 7 AEC 159, 174 fn. 27 (1974)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-179, 7 AEC 159, 175 (1974)
need for power as construction permit issue; LBP-76-026, (NRCI-76/6, pp 857-949)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-179, 7 AEC 174 fn. 27 (1974)
status of regulatory guides in licensing; LBP-76-014, C, (NRCI-76/4, p 432)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-194, 7 AEC 431, 445 (text accompanying fns. 27-29), 446 (1974)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-217, 8 AEC 61, 68 (1974)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
status of regulatory guides in licensing; LBP-76-014, C, (NRCI-76/4, p 432)
Vermont Yankee Nuclear Power Corp. (Vermont Yankee), ALAB-229, 8 AEC 425, 440-1 (1974), reversed on other grounds, CLI-74-040, 8 AEC 809 (1974)
regulatory staff's position in hearings; ALAB-304, C, (NRCI-76/1, pp 1-7)
Virginia Citizens' Consumer Council v. State Board of Pharmacy, 373 F.Supp. 683 (E.D. Va. 1974), probably jurisdiction noted, 420 U.S. 971 (1975)

discovery of private party documents or information; ALAB-327, C, (NRCI-76/4, pp 413-19)
Virginia Electric and Power Co. (North Anna), ALAB-256, NRCI-75/1, p 14 (1975)
initial decision format; LBP-76-003, B, (NRCI-76/1, pp 44-72)
Virginia Electric and Power Co. (North Anna), ALAB-289, 2 NRC 395, 396 (1975)
untimely antitrust intervention considerations; LBP-76-025, (NRCI-76/6, pp 847-56)
Virginia Petroleum Jobbers Assn. v. F.P.C., 259 F.2d 921, (D.C. Cir. 1958)
emergency stay granting criteria pending judicial review; CLI-76-002, B, (NRCI-76/2, pp 76-81)
Virginia Petroleum Jobbers Assn. v. F.P.C., 259 F.2d 921, 925 (D.C. Cir. 1958)
emergency stay criteria; ALAB-320, (NRCI-76/3, pp 196-7)
Warth v. Seldin, 422 U.S. 490, 45 L.Ed.2d 343, 362 (1975)
intervention in construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
Warth v. Seldin, 422 U.S. 490, 500 (1975)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Weinberger v. Hynson, Westcott and Dunning, 412 U.S. 609, 627 (1973)
agency determination of its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
Weinstock v. U.S., 231 F.2d 699, 701-02 (1956)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
Willner v. Committee on Character and Fitness, 373 U.S. 96 (1963)
attorney disqualification, evidentiary hearing right; ALAB-332, F, (NRCI-76/6, pp 800-02)
Wisconsin Electric Power Co. (Koshkonong Nuclear Plant), CLI-74-045, 8 AEC 928, 930 (1974)
operating license amendment considerations; LBP-76-010, A, (NRCI-76/3, pp 209-22)
Wisconsin Electric Power Co. (Point Beach), ALAB-058, 4 AEC 951 (1972)
emergency stay criteria; ALAB-320, (NRCI-76/3, pp 196-7)
Wisconsin Electric Power Co. (Point Beach), ALAB-082, 5 AEC 350, 351-2 (1972)
LWA status pending alternative-site remand resolution, dissenting opinion; ALAB-335, D, (NRCI-76/6, pp 842-6)
Wisconsin Electric Power Co. (Point Beach), Docket 50301
ASLB chairman change during evidentiary proceeding; LBP-76-004, B, (NRCI-76/2, pp 123-26)
Wolfe v. Tri-State Insurance Co., 407 F.2d 16, 19 (10th Cir. 1969)
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
Yablonski v. United Mine Workers of America, 454 F.2d 1036 (D.C. Cir. 1971)(dictum), cert. denied, 389 U.S. 820 (1967)
interlocutory status of attorney disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)

8 CFR 151.2(e)
ASLB Chairman replacement during evidentiary proceeding; LBP-76-004, B, (NRCI-76/2, pp 123-26)
10 CFR
appellate authority delegated to ASLAB for Diablo Canyon; CLI-76-001, A, (NRCI-76/2, pp 73-5)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
10 CFR 2
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
joint hearing with state of Maryland noticed for construction permit; LBP-76-013, (NRCI-76/4, pp 425-29)
10 CFR 2.4(n)
uncontested initial decision for construction permits for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
10 CFR 2.101
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
10 CFR 2.102(d)(3)
timeliness of intervention petition for export licensing; CLI-76-006, E, (NRCI-76/5, pp 578-80)
10 CFR 2.104
timeliness of intervention petition for export licensing; CLI-76-006, E, (NRCI-76/5, pp 578-80)
10 CFR 2.104(b)(2)
uncontested initial decision for construction permits for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
10 CFR 2.104(b)(3)
uncontested initial decision for construction permits for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
10 CFR 2.104(c)
initial decision appeal period; ALAB-310, (NRCI-76/1, pp 33-5)
10 CFR 2.105
timeliness of intervention petition for export licensing; CLI-76-006, E, (NRCI-76/5, pp 578-80)
10 CFR 2.202
burden of proof in show cause proceedings; ALAB-315, E, (NRCI-76/2, pp 113-122)
10 CFR 2.202(f)
burden of proof in show cause proceedings; ALAB-315, E, (NRCI-76/2, pp 113-122)
10 CFR 2.206
burden of proof in show cause proceedings; ALAB-315, E, (NRCI-76/2, pp 113-122)
10 CFR 2.704
ASLB chairman change does not cause mistrial; LBP-76-004, A, (NRCI-76/2, pp 123-26)
10 CFR 2.704(c)
automatic appellate review of ASLB member disqualification motion; ALAB-313, A, (NRCI-76/2, pp 94-7)
10 CFR 2.704(d)
ASLB Chairman replacement during evidentiary proceeding; LBP-76-004, B,

(NRCI-76/2, pp 123-26)
10 CFR 2.710
scheduling for supplemental affidavits; CLI-76-004, (NRCI-76/3, pp 159-60)
10 CFR 2.713
grounds for attorney disqualification; LBP-76-011, F, (NRCI-76/3, pp 229-32)
10 CFR 2.713(b)
agency jurisdiction over attorney conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
10 CFR 2.713(c)
ASLB initial duties in attorney disqualification; ALAB-332, B, (NRCI-76/6, pp 792-4)
ASLB jurisdiction over attorney suspension or disqualification; LBP-76-011, C, (NRCI-76/3, pp 227-8)
attorney disqualification, evidentiary hearing right; ALAB-332, F, (NRCI-76/6, pp 800-02)
certification status of attorney suspension by ASLB; LBP-76-011, D, (NRCI-76/3, pp 228-9)
evidence admissibility rules for attorney disqualification proceedings; LBP-76-011, E, (NRCI-76/3, pp 228-9)
ultimate disqualification decision on attorney disqualification rests with Special Board; ALAB-332, C, (NRCI-76/6, pp 792-4)
10 CFR 2.713(c)(2)
agency jurisdiction over attorney conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
10 CFR 2.714
contentions evaluation for Barnwell Receiving; LBP-76-024, (NRCI-76/5, pp 725-38)
criteria for intervention in adjudicatory proceedings; LBP-76-012, B, (NRCI-76/3, pp 277-91)
intervention considerations for operating license amendment for Browns Ferry; LBP-76-010, A, (NRCI-76/3, pp 209-22)
intervention standing and interests for construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
NEPA and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
NEPA considerations by licensing agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
requirements for initiation of public hearings on license application; LBP-76-022, B, (NRCI-76/5, pp 706-10)
scope of review of contentions with mixed questions of law and fact; LBP-76-014, B, (NRCI-76/4, pp 431-2)
standing for intervention in antitrust hearings; LBP-76-020, (NRCI-76/5, pp 657-61)
timeliness of intervention petition for export licensing; CLI-76-006, E, (NRCI-76/5, pp 578-80)
10 CFR 2.714(a)
antitrust hearing denied for Marble Hill; LBP-76-025, (NRCI-76/6, pp 847-56)
electrical consumer standing for intervention in construction permit proceeding certified to Commission; ALAB-333, (NRCI-76/6, pp 804-08)
10 CFR 2.714a
exceptions to interlocutory appeals, materials license grant; CLI-76-001, B, (NRCI-76/2, pp 73-5)
interlocutory nature of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
10 CFR 2.714(a)
intervention criteria for initiation of operating license proceeding; ALAB-305, C, (NRCI-76/1, pp 8-13)
10 CFR 2.714a
intervention denial for lack of ASLB jurisdiction over issues affirmed; ALAB-316, A, (NRCI-76/3, pp 167-74)
non-party appearance rights to protest discovery disclosure of proprietary information; ALAB-311, C, (NRCI 76/2, pp 88-90)
10 CFR 2.714(a)
standing of applicants from another proceeding to intervene; ALAB-304, A, (NRCI-76/1, pp 1-7)
untimely petition to intervene in materials licensing proceeding;

LBP-76-012, A, (NRCI-76/3, pp 277-91)
10 CFR 2.714(b)
agency jurisdiction to determine its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
10 CFR 2.714(d)
intervention standing in export licensing; CLI-76-006, B, (NRCI-76/5, pp 568-80)
10 CFR 2.715
NEPA and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
10 CFR 2.715(c)
appellate rights of state intervenor; ALAB-317, B, (NRCI-76/3, pp 175-85)
appellate rights under 10 CFR 2.714(a); ALAB-329, (NRCI-76/5, pp 607-12)
intervention granted in Barnwell materials licensing proceeding; LBP-76-012, A, (NRCI-76/3, pp 277-91)
10 CFR 2.717(a)
scope of ASLB jurisdiction over adjudicatory hearings; ALAB-316, C, (NRCI-76/3, pp 170-4)
10 CFR 2.718
ASLB jurisdiction to grant declaratory relief; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
10 CFR 2.718(i)
appellate policy for interlocutory review of denial of protective discovery orders; ALAB-327, B, (NRCI-76/4, p 413)
attorney disqualification remanded to ASLB with guidelines; ALAB-332, A, (NRCI-76/6, pp 785-803)
certification of ASLB admission of intervention contentions denied; ALAB-326, A, (NRCI-76/4, pp 406-07)
certification status of attorney suspension by ASLB; LBP-76-011, D, (NRCI-76/3, pp 228-9)
directed certification accepted for fuel contract information disclosure; ALAB-327, A, (NRCI-76/4, pp 408-19)
directed certification policy for ASLAB review of procedural rulings; ALAB-314, B, (NRCI-76/2, pp 98-100)
directed certification policy for interlocutory ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
directed certification request denied for interlocutory discovery rulings; ALAB-318, A, (NRCI-76/3, pp 186-7)
disqualification of ASLB member for ex parte violation, motion dismissed; ALAB-313, A, (NRCI-76/2, pp 94-7)
evidence admissibility rulings held interlocutory; ALAB-314, A, (NRCI-76/2, pp 98-100)
grandfathering of antitrust review for Davis-Besse 1; LBP-76-002, (NRCI-76/1, pp 39-43)
interlocutory discovery rulings on interrogatory responses; ALAB-318, B, (NRCI-76/3, pp 186-7)
10 CFR 2.721
appellate authority over 10 CFR 70 license delegated to ASLAB; CLI-76-001, A, (NRCI-76/2, pp 73-5)
10 CFR 2.730(f)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
evidence admissibility rulings held interlocutory; ALAB-314, A, (NRCI-76/2, pp 98-100)
exceptions to interlocutory appeals, materials license grant; CLI-76-001, B, (NRCI-76/2, pp 73-5)
interlocutory nature of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
interlocutory nature of denial of disqualification motions for ASLB member and attorneys; ALAB-313, A, (NRCI-76/2, pp 94-7)
10 CFR 2.732
burden of proof in show cause proceedings; ALAB-315, E, (NRCI-76/2, pp 113-122)
10 CFR 2.740(b)(1)
production of Civil Investigative Demand documents; LBP-76-008, C, (NRCI-76/3, pp 199-204)

10 CFR 2.740(c)(6)
criteria for obtaining protective discovery order; ALAB-327, D, (NRCI-76/4, pp 413-15)
10 CFR 2.744
criteria for obtaining protective discovery order; ALAB-327, D, (NRCI-76/4, pp 413-15)
10 CFR 2.751a
remand for pre-hearing conference on intervention standing; ALAB-305, A, (NRCI-76/1, pp 8-13)
10 CFR 2.751a(d)
directed certification policy for interlocutory contentions ruling; ALAB-330, A, (NRCI-76/5, pp 613-20)
interlocutory nature of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
10 CFR 2.752(c)
interlocutory nature of ASLB rulings on bifurcated proceedings; ALAB-329, (NRCI-76/5, pp 607-12)
written order covering telephone decisions required; ALAB-334, B, (NRCI-76/6, pp 814-15)
10 CFR 2.757
discovery and sabotage scope considerations; ALAB-334, D, (NRCI-76/6, pp 815-16)
10 CFR 2.757(b)
duplicate evidence submission discouraged; LBP-76-008, B, (NRCI-76/3, pp 199-204)
10 CFR 2.757(c)
cross examination limits on security and sabotage considerations; ALAB-334, C, (NRCI-76/6, pp 816-17)
cross examination relative to hypothetical questions; ALAB-334, C, (NRCI-76/6, pp 816-17)
10 CFR 2.758
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 2.760a
initial decision appeal period; ALAB-310, (NRCI-76/1, pp 33-5)
10 CFR 2.760(a)
low-power testing inquiries by ASLB, quality assurance; LBP-76-003, A, (NRCI-76/1, pp 44-72)
10 CFR 2.760a
role of NRC staff in unresolved matters after license authorization; ALAB-319, B, (NRCI-76/3, pp 188-95)
10 CFR 2.761(a)
appealability of ASLB denial of pre-LWA railroad spur construction; ALAB-331, B, (NRCI-76/6, p 774)
10 CFR 2.762
non-party appearance rights to protest discovery disclosure of proprietary information; ALAB-311, C, (NRCI 76/2, pp 88-90)
10 CFR 2.762(1973 ed.)
initial decision appeal period; ALAB-310, (NRCI-76/1, pp 33-5)
10 CFR 2.762(1975 ed.)
initial decision appeal period; ALAB-310, (NRCI-76/1, pp 33-5)
10 CFR 2.762(a)
apellate rights of state intervenor under 10 CFR 2.715(c); ALAB-317, B, (NRCI-76/3, pp 175-85)
appealability of ASLB denial of pre-LWA railroad spur construction; ALAB-331, B, (NRCI-76/6, p 774)
partial initial decision interpretation for pre-LWA activity authorization; ALAB-331, B, (NRCI-76/6, p 774)
10 CFR 2.780
alleged violations by conference telephone call; ALAB-313, A, (NRCI-76/2, pp 94-7)
10 CFR 2.780(a)
ex parte communications rule implementation guidelines, conference calls; ALAB-313, B, (NRCI-76/2, pp 94-7)
10 CFR 2.785
appellate authority over 10 CFR 70 license delegated to ASLAB; CLI-76-001, A, (NRCI-76/2, pp 73-5)

certification denied for burden of proof in show cause proceeding; ALAB-315, A, (NRCI-76/2, pp 101-112)
10 CFR 2.785(a)
interim material license grant prior to operating license issuance affirmed; ALAB-334, A, (NRCI-76/6, pp 809-29)
10 CFR 2.787A
facility export license for Spain ASCO II, XR-99; CLI-76-009, A, (NRCI-76/6, pp 739-70)
10 CFR 2.790
criteria for obtaining protective discovery order; ALAB-327, D, (NRCI-76/4, pp 413-15)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
discovery of information in hands of a private party; ALAB-327, C, (NRCI-76/4, pp 413-19)
10 CFR 2.800
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 9.5(a)(4)
criteria for obtaining protective discovery order; ALAB-327, D, (NRCI-76/4, pp 413-15)
discovery of information in hands of a private party; ALAB-327, C, (NRCI-76/4, pp 413-19)
10 CFR 20
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 20.1
cost-benefit statement for radioactive effluents; CLI-76-003, (NRCI-76/2, pp 82-3)
10 CFR 20.101
NEPA agency considerations; LBP-76-014, D, (NRCI-76/4, pp 433-42)
10 CFR 50
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
10 CFR 50.3
ASLB authority to interpret regulations in exercising delegated responsibilities; ALAB-321, D, (NRCI-76/4, p 300)
10 CFR 50.10
ASLB jurisdiction over offsite activities prior to LWA, dissenting opinion; ALAB-321, A, (NRCI-76/4, pp 293-330)
interpretation of syntax; ALAB-321, H, (NRCI-76/4, pp 313-327)
10 CFR 50.10(b)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
10 CFR 50.10(c)
affirmation of ASLB denial of pre-LWA construction of railroad spur; ALAB-331, A, (NRCI-76/6, pp 771-84)
extent of pre-LWA activities allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
interpretation should focus on purpose of enactment; ALAB-331, C, (NRCI-76/6, pp 775-6)
LWA considerations of plant access road, relocation of FAS route 10 and railroad spur construction; LBP-76-019, (NRCI-76/5, pp 652-4)
redressability concept in pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
10 CFR 50.10(e)(2)
NEPA and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
10 CFR 50.10(e)(3)
supplemental findings for amended LWA for Perry; LBP-76-017, (NRCI-76/5, pp 621-6)
10 CFR 50.10(e)(4)
applicability to first-of-a-kind facility; LBP-76-014, D, (NRCI-76/4, pp 433-42)
10 CFR 50.12(b)(2)
redressability concept in pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
10 CFR 50.33(f)

financial qualifications of applicant; LBP-76-015, B, (NRCI-76/4, pp 460-74)
10 CFR 50.34a
cost-benefit statement for radioactive effluents; CLI-76-003, (NRCI-76/2, pp 82-3)
10 CFR 50.34(a)(3)
scope of review of contentions with mixed questions of law and fact; LBP-76-014, B, (NRCI-76/4, pp 431-2)
10 CFR 50.34(c)
cross examination limits on security and sabotage considerations; ALAB-334, C, (NRCI-76/6, pp 816-17)
10 CFR 50.35(a)
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
10 CFR 50.36a
cost-benefit statement for radioactive effluents; CLI-76-003, (NRCI-76/2, pp 82-3)
10 CFR 50.46
plant-life ECCS exemption for Big Rock; CLI-76-008, (NRCI-76/5, pp 598-606)
10 CFR 50.54(h)
burden of proof in show cause proceeding; ALAB-315, C, (NRCI-76/2, pp 104-106)
10 CFR 50.57(c)
interim low-power testing and operation authorized for Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
low-power testing license authorized for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
10 CFR 50 App. A
intervenor default with contentions dismissed; LBP-76-007, A, (NRCI-76/2, pp 156-8)
10 CFR 50 App. C
financial qualifications of applicant; LBP-76-015, B, (NRCI-76/4, pp 460-74)
10 CFR 50 App. D
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
10 CFR 50 App. D(8)
transmission line clearance limitation for North Anna 1 and 2; LBP-76-001, (NRCI-76/1, pp 37-8)
10 CFR 50 App. I
cooling tower release radiological impacts for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
10 CFR 50 App. K
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
intervenor default with contentions dismissed; LBP-76-007, A, (NRCI-76/2, pp 156-8)
plant-life ECCS exemption for Big Rock; CLI-76-008, (NRCI-76/5, pp 598-606)
10 CFR 51
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
initial decision for construction permits for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
NRC jurisdiction over matters covered in TVA and NEPA Acts; LBP-76-016, B, (NRCI-76/4, pp 493-4)
10 CFR 51.5(a)(10)
NRC staff discretion for NEPA determination; LBP-76-022, A, (NRCI-76/5, pp 706-10)
10 CFR 51.5(d)(4)
Nepa requirements for export licensing; CLI-76-006, D, (NPCI-76/5, pp 584-5)
10 CFR 51.20
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 51.23(d)
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 51.52
NEPA and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
10 CFR 51.53(c)

radiological dose to population considered during NEPA and site suitability findings; LBP-76-018, (NRCI-76/5, pp 627-51)
10 CFR 70
exceptions to interlocutory appeals, materials license grant; CLI-76-001, B, (NRCI-76/2, pp 73-5)
export licensing criteria for NRC handling, p 592; CLI-76-006, A, (NRCI-76/5, pp 563-93)
10 CFR 70.31(d)
interim material license grant prior to operating license issuance affirmed; ALAB-334, A, (NRCI-76/6, pp 809-29)
10 CFR 70.31(e)
Commission jurisdiction over foreign health-and-safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
10 CFR 73.1
cross examination limits on security and sabotage considerations; ALAB-334, C, (NRCI-76/6, pp 816-17)
10 CFR 73.2(p)
cross examination limits on security and sabotage considerations; ALAB-334, C, (NRCI-76/6, pp 816-17)
10 CFR 73.40
cross examination limits on security and sabotage consideration; ALAB-334, C, (NRCI-76/6, pp 816-17)
10 CFR 100
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
exclusion-area and low-population-zone considerations; ALAB-335, C, (NRCI-76/6, pp 833-4)
exclusion area control by applicant at time of LWA issuance; LBP-76-018, (NRCI-76/5, pp 627-51)
initial decision for construction permits for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
10 CFR 100.3(a)
exclusion area control during normal and accident situations; ALAB-308, B, (NRCI-76/1, pp 20-30)
exclusion area control, exceptions for total; ALAB-308, B, (NRCI-76/1, pp 20-30)
minimum size of exclusion area not prescribed; ALAB-308, E, (NRCI-76/1, p 27, fn. 7)
10 CFR 100.10(c)(1)(1973 ed.)
staff duties and responsibilities for public safety in licensing; ALAB-324, A, (NRCI-76/4, pp 347-403)
10 CFR 100 App. A, Statement of Considerations
staff duties and responsibilities for public safety in licensing; ALAB-324, A, (NRCI-76/4, pp 347-403)
10 CFR 125.35d(2)
viability of stayed FWPCA permits pending adjudicatory EPA hearings; LBP-76-027, (NRCI-76/6, pp 950-2)
17 CFR 240.10b-5
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
40 CFR 164.2(r)
burden of proof in administrative proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
40 CFR 164.23
burden of proof in administrative proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
40 CFR 164.80(a)
burden of proof in administrative proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
40 CFR 423.13(j)
scope of ASLB water quality considerations v. state regulatory authority; LBP-76-018, (NRCI-76/5, pp 627-51)
40 CFR 1500.2(b)(1974)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)

40 CFR 1500.6(d)(1974)
ASLB NEPA considerations for intervention issues; ALAB-330, A, (NRCI-76/5, pp 613-20)
40 CFR 1500.8
issues delineation for Barnwell Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
40 Federal Register 53056
stay denied pending judicial review of interim mixed oxide fuel licensing procedures; CLI-76-002, A, (NRCI-76/2, pp 76-81)
41 Fed. Reg. 4877 Executive Order 11902 (February 2, 1976)
guidelines for export licensing determination; CLI-76-009, B, (NRCI-76/6, pp 739-70)
43 CFR 4.587
burden of proof in show cause proceedings; ALAB-315, E, (NRCI-76/2, pp 113-122)
Export Licensing Procedures, Nuclear Regulatory Commission, January 1976
guidelines for export licensing determination; CLI-76-009, B, (NRCI-76/6, pp 739-70)
Federal Rules of Civil Procedure 12(b)(6)
relation to 10 CFR 2.713(c), attorney disqualification; ALAB-332, B, (NRCI-76/6, pp 792-4)
Federal Rules of Civil Procedure 26(b)(1)
production of Civil Investigative Demand documents; LBP-76-008, C, (NRCI-76/3, pp 199-204)
Federal Rules of Civil Procedure 26(c)(7)
discovery of information in hands of a private party; ALAB-327, C, (NRCI-76/4, pp 413-19)
Regulatory Guide 1.44
use of type 304 stainless steel in Clinton cooling system pipes; LBP-76-006, (NRCI-76/2, pp 135-55)
Restatement of Agency (2d) 72,275 (1957)
applicant's liability relative to employee knowledge of safety defects; ALAB-324, F, (NRCI-76/4, pp 377-8)

28 U.S.C. 1292(b)
appellate status of attorney suspension or disqualification by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
42 U.S.C. 2232(a)
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
42 U.S.C. 2235
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Administrative Procedure Act, 5 U.S.C. 554(a)(4)
standing to intervene in adjudicatory hearings; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Administrative Procedure Act, 5 U.S.C. 554(e)
ASLB jurisdiction to grant declaratory relief; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Administrative Procedure Act, 5 U.S.C. 556(c)(9)
ASLB jurisdiction to grant declaratory relief; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
Administrative Procedure Act 7(c)
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Administrative Procedure Act 9(b)
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Administrative Procedure Act, Subpart 4
nonapplicability of APA to initial license applications; LBP-76-004, B, (NRCI-76/2, pp 123-26)
Antitrust Civil Process Act, 15 U.S.C. 1311-14
relation to NRC discovery procedures; LBP-76-008, A, (NRCI-76/3, pp 199-204)
Atomic Energy Act
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
guidelines for common defense and security determinations for export licensing; CLI-76-009, B, (NRCI-76/6, pp 739-70)
relation to NEPA; ALAB-321, E, (NRCI-76/4, pp 304-13)
relation to NEPA and TVA Act; LBP-76-016, B, (NRCI-76/4, pp 493-4)
rights for a public hearing on license application; LBP-76-022, B, (NRCI-76/5, pp 706-10)
safety considerations as show cause justification; ALAB-315, B, (NRCI-76/2, pp 103-104)
scope of ASLB delegated authority during adjudicatory hearings; ALAB-316, C, (NRCI-76/3, pp 170-4)
scope of interests protected, intervention standing; ALAB-322, (NRCI-76/4, pp 328-30)
scope of Licensing information required, fuel supply contract; LBP-76-015, B, (NRCI-76/4, pp 460-74)
violations of reporting requirements; ALAB-324, D, (NRCI-76/4, pp 362-4)
Atomic Energy Act 3(e)
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)

Atomic Energy Act 11(cc)
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Atomic Energy Act 11(g)
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Atomic Energy Act 53
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 54
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 57(b)
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 57(c)(2)
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 63
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 64
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 81
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 82
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 101
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Atomic Energy Act 103
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Nepa and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
NRC jurisdiction over other government agencies for licensing applications; LBP-76-016, C, (NRCI-76/4, pp 494-5)
Atomic Energy Act 103(d)
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)
Atomic Energy Act 103d
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
Atomic Energy Act 105(c)
antitrust review, legislative history considerations; ALAB-323, C, (NRCI-76/4, pp 337-43)
prelicensing antitrust review provisions; ALAB-316, B, (NRCI-76/3, pp 168-70)
Atomic Energy Act 105(c)(8)
grandfather clause for licensing prior to antitrust review; ALAB-323, C, (NRCI-76/4, pp 337-43)
grandfathering of Davis-Besse 1, negative ruling referred to ASLAB; LBP-76-002, (NRCI-76/1, pp 39-43)
Atomic Energy Act 105(c)(8), 42 U.S.C. 2135(c)(8)
applicability of grandfather clause to Davis-Besse; ALAB-323, A, (NRCI-76/4, pp 331-46)
Atomic Energy Act 123
export licensing criteria for NRC handling, p 592; CLI-76-006, A, (NRCI-76/5, pp 563-93)
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Atomic Energy Act 124
Commission jurisdiction over foreign health and safety effects from export licensing; CLI-76-006, C, (NRCI-76/5, pp 580-4)

Atomic Energy Act 181
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Atomic Energy Act 182(a)
scope of material false statement liability; ALAB-324, D, (NRCI-76/4, pp 362-4)
Atomic Energy Act 185
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Atomic Energy Act 186
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
definition of material false statement; ALAB-324, C, (NRCI-76/4, pp 358-60)
material false statements in North Anna applications, modification of sanctions; ALAB-324, A, (NRCI-76/4, pp 347-403)
scienter in material false statements; ALAB-324, B, (NRCI-76/4, pp 356-8)
scope of material false statement liability; ALAB-324, D, (NRCI-76/4, pp 362-4)
Atomic Energy Act 189
criteria for intervention in adjudicatory proceedings; LBP-76-012, B, (NRCI-76/3, pp 277-91)
Atomic Energy Act 189(a)
Commission to order hearing in absence of proper request; CLI-76-006, F, (NRCI-76/5, p. 580)
intervention rights of electrical power consumer; ALAB-333, (NRCI-76/6, pp 804-08)
standing to intervene in adjudicatory hearings; CLI-76-006, B, (NRCI-76/5, pp 568-80)
timeliness of intervention petition for export licensing; CLI-76-006, E, (NRCI-76/5, pp 578-80)
Atomic Energy Act 191
ASLB Chairman replacement during evidentiary proceeding; LBP-76-004, B, (NRCI-76/2, pp 123-26)
Atomic Energy Act 191a
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
Atomic Energy Act 234
civil monetary penalties assessed for North Anna Material false statement, modifications; ALAB-324, A, (NRCI-76/4, pp 347-403)
Atomic Energy Act 273
NRC jurisdiction over other government agencies for licensing applications; LBP-76-016, C, (NRCI-76/4, pp 494-5)
Energy Reorganization Act 201(f), 42 U.S.C. 5841(f)
facility export license XR-99 authorized for Spain ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
Federal Coal Mine Health and Safety Act of 1969, 30 U.S. 801ff
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Federal Communications Act
scienter in material false statements, relation to Atomic Energy Act 186; ALAB-324, B, (NRCI-76/4, pp 356-8)
Federal Food, Drug and Cosmetic Act 301(k), 21 U.S.C. 331(k)
scienter in material false statements, relation to Atomic Energy Act 186; ALAB-324, B, (NRCI-76/4, pp 356-8)
Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. 135
applicability to burden-of-proof; ALAB-315, E, (NRCI-76/2, pp 113-122)
burden of proof in administrative show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
Federal Water Pollution Control Act, 401
ASLB jurisdiction does not allow review of permits; LBP-76-027, (NRCI-76/6, pp 950-2)
Federal Water Pollution Control Act, 1972 Amendments, 401
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
Federal Water Pollution Control Act 511 (c)(2)
ASLB jurisdiction does not allow review of permits; LBP-76-027, (NRCI-76/6, pp 950-2)
Federal Water Pollution Control Act 511(c)(2)

scope of ASLB NEPA review; LBP-76-018, (NRCI-76/5, pp 627-51)
Freedom of Information Act
discovery jurisdiction over private party information excluded; ALAB-327, C, (NRCI-76/4, pp 413-19)
relation to organization's intervention standing for adjudicatory hearings; CLI-76-006, B, (NRCI-76/5, pp 568-80)
Mann Act, 36 Stat. 825
statute interpretation; ALAB-323, B, (NRCI-76/4, pp 335-7)
National Environmental Policy Act 101
licensing agency responsibilities; LBP-76-014, D, (NRCI-76/4, pp 433-42)
National Environmental Policy Act 102
licensing agency responsibilities; LBP-76-014, D, (NRCI-76/4, pp 433-42)
National Environmental Policy Act (NEPA)
Commission obligations not altered by presence or absence of intervenor; ALAB-331, E, (NRCI-76/6, p 777)
construction permit issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
construction permits authorized for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
intervention rights of electrical power consumer; ALAB-333, (NRCI-76/6, pp 804-08)
Nepa and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
redressability and extent of pre-LWA activity; ALAB-331, D, (NRCI-76/6, pp 778-84)
relation to Atomic Energy Act; ALAB-321, E, (NRCI-76/4, pp 304-13)
relation to public intervention rights for export licensing hearings; CLI-76-006, D, (NRCI-76/5, pp 584-5)
relation to TVA Act and Atomic Energy Act; LBP-76-016, B, (NRCI-76/4, pp 493-4)
scope of NRC responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
transmission line routing affirmed for North Anna; ALAB-325, (NRCI-76/4, pp 404-05)
weight in regulation interpretations; ALAB-321, H, (NRCI-76/4, pp 313-327)
National Historic Preservation Act 106
consideration for Hartsville site evaluation; LBP-76-016, A, (NRCI-76/4, pp 485-562)
Tennessee Valley Authority Act
relation to NEPA and Atomic Energy Act; LBP-76-016, B, (NRCI-76/4, pp 493-4)

ACCIDENT
adequacy of consideration during EIS for Clinch River Breeder, accepted as issue; LBP-76-014, A, (NRCI-76/4, pp 430-44)
LOCA probability considerations during Beaver Valley interim licensing; LBP-76-023, (NRCI-76/5, pp 711-24)
risks associated with unspent reactor fuel storage; ALAB-334, A, (NRCI-76/6, pp 809-29)
ACCIDENT, DESIGN BASIS
adequacy of consideration during EIS for Clinch River Breeder, accepted as issue; LBP-76-014, A, (NRCI-76/4, pp 430-44)
ADMINISTRATIVE TRIBUNALS
authority to make rules and regulations necessary to execution of functions; ALAB-332, D, (NRCI-76/6, pp 794-6)
authority to take disciplinary action against attorneys guilty of unethical and improper conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
AESTHETICS
visual impact of Seabrook facility; LBP-76-026, (NRCI-76/6, pp 857-949)
ANTITRUST
admissibility of Civil Investigative Demand documents; LBP-76-008, A, (NRCI-76/3, pp 199-204)
criminal conspiracy law procedures denied for Davis-Besse and Perry proceedings; LBP-76-005, A, (NRCI-76/2, pp 127-34)
grandfather clause inapplicability to Davis-Besse 1; ALAB-323, A, (NRCI-76/4, pp 331-46)
hearings denied for Marble Hill relative to untimely intervention petition; LBP-76-025, (NRCI-76/6, pp 847-56)
operating license issuance prior to completion of review, status of Davis-Besse 1 for; LBP-76-002, (NRCI-76/1, pp 39-43)
prelicensing review required only on Attorney General recommendations or interested party request; ALAB-316, B, (NRCI-76/3, pp 168-70)
rules of practice for hearings; ALAB-316, D, (NRCI-76/3, pp 173-4)
situations inconsistent with law, conspiracies, combinations and monopolies; LBP-76-005, B, (NRCI-76/2, pp 127-34)
ANTITRUST PROCEEDINGS
grandfather clause applicability; ALAB-323, C, (NRCI-76/4, pp 337-43)
intervention criteria for prelicensing review; LBP-76-020, (NRCI-76/5, pp 657-61)
APPEAL BOARD
see Atomic Safety and Licensing Appeal Board
APPEALS
period allowed for initial decisions prior to 10 CFR 2.762 amendment; ALAB-310, (NRCI-76/1, pp 33-5)
APPEALS, INTERLOCUTORY
appellate status of attorney suspension by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
circumstances warranting ASLAB review; ALAB-314, C, (NRCI-76/2, pp 98-100)
consideration policy for proprietary information discovery orders; ALAB-327, B, (NRCI-76/4, p 413)
directed certification denied for discovery rulings; ALAB-318, A, (NRCI-76/3, pp 186-7)
exceptions to, materials license grant prior to operating license; CLI-76-001, B, (NRCI-76/2, pp 73-5)

status of discovery order against non-party; ALAB-311, B, (NRCI-76/2, pp 87-8)
APPELLATE POLICY
interlocutory review of protective order denial for fuel contract information; ALAB-327, B, (NRCI-76/4, p 413)
APPELLATE REVIEW
authority delegated to ASLAB for materials license appeal; CLI-76-001, A, (NRCI-76/2, pp 73-5)
circumstances warranting review of interlocutory decisions; ALAB-314, C, (NRCI-76/2, pp 98-100)
final status of ASLB declaratory relief rulings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
interested state's rights under 10 CFR 2.714a and 2.715(c); ALAB-329, (NRCI-76/5, pp 607-12)
jurisdiction over ASLB suspension or disqualification of attorneys; LBP-76-011, B, (NRCI-76/3, pp 226-7)
non-party may not assert claim for the first time at appellate level; ALAB-311, C, (NRCI 76/2, pp 88-90)
policy considers only briefed issues; ALAB-334, A, (NRCI-76/6, pp 809-29)
policy for ASLB rulings denying pre-LWA activity; ALAB-331, B, (NRCI-76/6, p 774)
policy for briefing exceptions by category; ALAB-335, B, (NRCI-76/6, pp 832)
policy for directed certification of ASLB interlocutory contentions rulings; ALAB-330, B, (NRCI-76/5, pp 613-20)
requirements for transcript citations to support exceptions; LBP-76-003, B, (NRCI-76/1, pp 44-72)
rights confined to proceeding participants; ALAB-311, D, (NRCI-76/2, pp 88)
status of materials license grant during operating license proceedings; CLI-76-001, B, (NRCI-76/2, pp 73-5)
status of state intervenor under 10 CFR 2.715(c); ALAB-317, B, (NRCI-76/3, pp 175-85)
APPLICANT
includes Licensee
appellate status for denial of pre-LWA activity; ALAB-331, B, (NRCI-76/6, p 774)
burden of proof in show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
burden of proof in show cause proceedings, reconsideration; ALAB-315, A, (NRCI-76/2, pp 101-112)
financial qualifications, scope of information required for construction permit; LBP-76-015, B, (NRCI-76/4, pp 460-74)
liability in agency proceedings for employee knowledge; ALAB-324, F, (NRCI-76/4, pp 377-8)
NEPA responsibilities when other government agency applicant; LBP-76-016, C, (NRCI-76/4, pp 494-5)
organization and management for Seabrook; LBP-76-026, (NRCI-76/6, pp 857-949)
report requirements, considerations appropriate for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
senior management attitudes on employee obedience to regulations; ALAB-324, G, (NRCI-76/4, pp 389-92)
subcontractors duties and responsibilities under Atomic Energy Act; ALAB-324, G, (NRCI-76/4, pp 389-92)
violations of statute and regulation reporting requirements, criteria for determining; ALAB-324, C, (NRCI-76/4, pp 358-60)
ARCHEOLOGY
impact of Seabrook facility on remains of Indian villages; LBP-76-026, (NRCI-76/6, pp 857-949)
ASCO NUCLEAR POWER PLANT, Unit 2
export license authorized for nuclear steam supply system; CLI-76-009, A, (NRCI-76/6, pp 739-70)
ATOMIC SAFETY AND LICENSING APPEAL BOARD
appellate policy for interlocutory denial of protective discovery orders; ALAB-327, B, (NRCI-76/4, p 413)
authority delegated to review 10 CFR 70 license; CLI-76-001, A, (NRCI-76/2, pp 73-5)

certification policy for review of ASLB intervention contentions; ALAB-326, B, (NRCI-76/4, pp 406-07)
ex parte communications rule implementation; ALAB-313, B, (NRCI-76/2, pp 94-7)
policy for non-party claims on appellate level; ALAB-311, C, (NRCI 76/2, pp 88-90)
responsibilities for regulations' interpretation; ALAB-308, C, (NRCI-76/1, pp 25-26)
ATOMIC SAFETY AND LICENSING APPEAL BOARD, JURISDICTION
applicants' compliance with State regulatory requirements; ALAB-308, D, (NRCI-76/1, p 30)
ATOMIC SAFETY AND LICENSING BOARD
appealability of rulings denying pre-LWA activity; ALAB-331, B, (NRCI-76/6, p 774)
authority to interpret Commission regulations in light of 10 CFR 50.3; ALAB-321, D, (NRCI-76/4, p 300)
chairman change during evidentiary proceedings, trial effects; LBP-76-004, B, (NRCI-76/2, pp 123-26)
considerations for operating license intervention grant; ALAB-305, C, (NRCI-76/1, pp 8-13)
considerations of regulatory staff's position during licensing proceedings; ALAB-304, C, (NRCI-76/1, pp 1-7)
considerations on uranium supply adequacy and fuel utilization efficiency; ALAB-317, A, (NRCI-76/3, pp 175-85)
contentions admissions, ASLAB certification policy; ALAB-326, B, (NRCI-76/4, pp 406-07)
criteria for attorney disqualification motion handling; ALAB-332, B, (NRCI-76/6, pp 792-4)
discretionary allowance of hypothetical questions; ALAB-334, C, (NRCI-76/6, pp 816-17)
ex parte communications rule implementation; ALAB-313, B, (NRCI-76/2, pp 94-7)
extent of delegated authority over intervention issues; ALAB-316, C, (NRCI-76/3, pp 170-4)
obligations relative to telephone-conference rulings include a written order; ALAB-334, B, (NRCI-76/6, pp 814-15)
responsibilities for regulations' interpretation; ALAB-308, C, (NRCI-76/1, pp 25-26)
scope of contentions review; LBP-76-014, B, (NRCI-76/4, pp 431-2)
Special Board role in attorney disqualification hearings; ALAB-332, C, (NRCI-76/6, pp 792-4)
ATOMIC SAFETY AND LICENSING BOARD, JURISDICTION
attorney disqualification decision rests with Special Board; ALAB-332, C, (NRCI-76/6, pp 792-4)
authority to make rules and regulations necessary to execution of functions; ALAB-332, D, (NRCI-76/6, pp 794-6)
authority to take disciplinary action against attorneys guilty of unethical and improper conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
declaratory relief scope in construction permit hearings; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
determination of its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
imposition of civil penalties or license conditions in show-cause proceedings; ALAB-324, G, (NRCI-76/4, pp 389-92)
scope limited by Commission criteria; LBP-76-024, (NRCI-76/5, pp 725-38)
suspension of attorney, original vs. special convened board; LBP-76-011, C, (NRCI-76/3, pp 227-8)
termination by license authorization; ALAB-319, B, (NRCI-76/3, pp 188-95)
ATTORNEY
ASLB jurisdiction over unethical and improper professional conduct; ALAB-332, D, (NRCI-76/6, pp 794-6)
burden of explanation of future consequences in conflict of interest situations; LBP-76-011, G, (NRCI-76/3, p 232)
certification status of suspension or disqualification by ASLB; LBP-76-011, D, (NRCI-76/3, pp 228-9)
conflict-of-interest suspension during antitrust proceeding; LBP-76-011, A, (NRCI-76/3, pp 223-76)

disclosures of information from former client; ALAB-332, E, (NRCI-76/6, pp 797-9)
disqualification allegations need not contain specific confidence disclosures; ALAB-332, B, (NRCI-76/6, pp 792-4)
disqualification charges, rules of practice for hearing, burden of proof and discovery rights; ALAB-332, F, (NRCI-76/6, pp 800-02)
disqualification decision remanded for evidentiary hearing; ALAB-332, A, (NRCI-76/6, pp 785-803)
disqualification grounds for conflict-of-interest; LBP-76-011, F, (NRCI-76/3, pp 229-32)
disqualification hearings, role of Special Board; ALAB-332, C, (NRCI-76/6, pp 792-4)
disqualification proceedings, evidence admissibility; LBP-76-011, E, (NRCI-76/3, pp 228-9)
ex parte communications responsibilities regarding conference telephone calls; ALAB-313, A, (NRCI-76/2, pp 94-7)
participation rights in disqualification hearing; ALAB-332, F, (NRCI-76/6, pp 800-02)
qualifications for practice before NRC forum; LBP-76-011, H, (NRCI-76/3, p 226)
suspension or disqualification, ASLAB jurisdiction; LBP-76-011, B, (NRCI-76/3, pp 226-7)
suspension or disqualification, ASLB jurisdiction; LBP-76-011, C, (NRCI-76/3, pp 227-8)
BARNWELL FUEL RECEIVING AND STORAGE STATION
construction permit, operating license, environmental review requirements; LBP-76-022; A, (NRCI-76/5, pp 706-10)
materials license, intervention grants and denial affirmed; ALAB-328, A, (NRCI-76/4, pp 420-24)
operating license, intervention considerations; LBP-76-012, A, (NRCI-76/3, pp 277-91)
operating license, issues delineation and scope of hearing; LBP-76-024, (NRCI-76/5, pp 725-38)
BEAVER VALLEY POWER STATION, Unit 1
interim low-power testing and operating license authorized; LBP-76-023, (NRCI-76/5, pp 711-24)
operating license, appeal period schedule modification on low-power testing authorization; ALAB-310, (NRCI-76/1, pp 33-5)
operating license, low-power testing authorized; LBP-76-003, A, (NRCI-76/1, pp 44-72)
BIG ROCK POINT NUCLEAR POWER STATION
ECCS plant-life exemption plus other exemptions until scheduled refueling outage; CLI-76-008, (NRCI-76/5, pp 598-606)
BIRDS
ecological impact of Seabrook facility; LBP-76-026, (NRCI-76/6, pp 857-949)
BRAIDWOOD STATION, Units 1 and 2
construction permits, affirmation of partial and initial decisions by sua sponte review; ALAB-312, (NRCI-75/2, pp 91-3)
BRIEFS
appellate policy for categorizing exceptions; ALAB-335, B, (NRCI-76/6, pp 832)
BROWNS FERRY NUCLEAR PLANT, Units 1 and 2
operating license amendment, intervention and hearing granted; LBP-76-010, A, (NRCI-76/3, pp 209-22)
BURDEN OF PROOF
see Proof, Burden of
BYRON STATION, Units 1 and 2
construction permits, affirmation of partial and initial decisions by sua sponte review; ALAB-312; (NRCI-75/2, pp 91-3)
CALLOWAY PLANT, Units 1 and 2
construction permits authorized; LBP-76-015, A, (NRCI-76/4, pp 445-84)
CANONS OF ETHICS
attorney burden of explanation of future consequences of conflict of interest situation; LBP-76-011, G, (NRCI-76/3, p 232)
CERTIFICATION
appropriateness for attorney suspension by ASLB; LBP-76-011, D, (NRCI-76/3,

pp 228-9)
ASLAB policy for interlocutory rulings for construction permit contentions; ALAB-330, B, (NRCI-76/5, pp 613-20)
policy for directing procedural rulings; ALAB-314, B, (NRCI-76/2, pp 98-100)
rules of practice for ASLAB consideration of ASLB intervention contentions; ALAB-326, B, (NRCI-76/4, pp 406-07)
rules of practice for interlocutory discovery rulings; ALAB-318, B, (NRCI-76/3, pp 186-7)
CHEROKEE NUCLEAR STATION, Units 1, 2 and 3
construction permit proceedings, LWA authorized by Nepa and site suitability findings; LBP-76-018, (NRCI-76/5, pp 627-51)
CHLORINE
Beaver Valley compliance with effluent limitations; LBP-76-023, (NRCI-76/5, pp 711-24)
chemical effluent limitations for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
CIVIL PENALTIES
ASLB jurisdiction for imposition of sanctions; ALAB-324, G, (NRCI-76/4, pp 389-92)
CLINCH RIVER BREEDER REACTOR PLANT
construction permit proceedings, directed certification of intervention and pre-hearing conference orders denied; ALAB-330, A, (NRCI-76/5, pp 613-20)
construction permit, intervention contentions; ALAB-326, A, (NRCI-76/4, pp 406-07)
prehearing conference, contentions admissibility; LBP-76-014, A, (NRCI-76/4, pp 430-44)
CLINTON POWER STATION, Units 1 and 2
construction permits authorized; LBP-76-006, (NRCI-76/2, pp 135-55)
COLLATERAL ESTOPPEL
see Res Judicata
COMMISSION
see Nuclear Regulatory Commission
COMPLIANCE
burden of proof in show cause proceedings, reconsideration; ALAB-315, A, (NRCI-76/2, pp 101-112)
modifications of sanctions for North Anna material false statement; ALAB-324, A, (NRCI-76/4, pp 347-403)
CONSPIRACY
definition in relation to antitrust laws; LBP-76-005, B, (NRCI-76/2, pp 127-34)
CONSTRUCTION PERMITS
affirmation of authorization for WPPSS Unit 1; ALAB-309, (NRCI-76/1, pp 31-2)
affirmation of initial decisions for Byron 1 and 2 and Braidwood 1 and 2; ALAB-312, (NRCI-75/2, pp 91-3)
affirmation of South Texas 1 and 2 authorization; ALAB-306, (NRCI-76/1, pp 14-16)
authorization for Clinton 1 and 2; LBP-76-006, (NRCI-76/2, pp 135-55)
compliance with state v. agency requirements, Commission jurisdiction; ALAB-308, D, (NRCI-76/1, p 30)
considerations appropriate for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
initial decision authorization in uncontested proceeding for Palo Verde; LBP-76-021, (NRCI-76/5, pp 662-705)
issuance authorized for Seabrook 1 and 2; LBP-76-026, (NRCI-76/6, pp 857-949)
issuances for Calloway 1 and 2; LBP-76-015, A, (NRCI-76/4, pp 445-84)
validity of previously issued, inappropriateness of considerations during spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
CONSTRUCTION PERMITS, APPLICATIONS
information omission from original; ALAB-324, C, (NRCI-76/4, pp 358-60)
material false statement liability scope; ALAB-324, D, (NRCI-76/4, pp 362-4)
CONSTRUCTION PERMITS, PROCEEDINGS
amended LWA authorized for Perry, reactor foundation mat; LBP-76-017, (NRCI-76/5, pp 621-6)
appealability of ASLB rulings on pre-LWA activity; ALAB-331, B, (NRCI-76/6,

p 774)
ASLB jurisdiction over offsite preparation prior to LWA; ALAB-321, A, (NRCI-76/4, pp 293-330)
chairman change during evidentiary proceedings denied as reason for mistrial; LBP-76-004, A, (NRCI-76/2, pp 123-26)
construction activities allowable prior to LWA issuance; LBP-76-019, (NRCI-76/5, pp 652-4)
contentions admissibility determinations for Clinch River Breeder; LBP-76-014, A, (NRCI-76/4, pp 430-44)
directed certification denied for pre-hearing conference orders and intervention matters; ALAB-330, A, (NRCI-76/5, pp 613-20)
exclusion area and population density compliance considerations; ALAB-335, C, (NRCI-76/6, pp 833-4)
expert witnesses' demeanor and qualifications; LBP-76-004, C, (NRCI-76/2, pp 123-26)
grandfather clause applicability; ALAB-323, C, (NRCI-76/4, pp 337-43)
interlocutory nature of ASLB rulings on bifurcated hearings; ALAB-329, (NRCI-76/5, pp 607-12)
intervenor default in Pilgrim proceedings; LBP-76-007, A, (NRCI-76/2, pp 156-8)
intervention considerations for Douglas Point; LBP-76-009, (NRCI-76/3, pp 205-08)
intervention contentions scope for Clinch River; ALAB-326, A, (NRCI-76/4, pp 406-07)
intervention standing of utility customer, certified to Commission; ALAB-333, (NRCI-76/6, pp 804-08)
joint evidentiary hearings with states; LBP-76-013, (NRCI-76/4, pp 425-29)
LWA findings for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
pre-LWA railroad spur construction denial affirmation considerations; ALAB-331, A, (NRCI-76/6, pp 771-84)
procedural-violations (ex parte communications) appeal dismissed for North Coast conference call; ALAB-313, A, (NRCI-76/2, pp 94-7)
remand of protective order for disclosure of fuel supply contract; ALAB-327, A, (NRCI-76/4, pp 408-19)
scope of ASLB delegated jurisdiction; ALAB-316, A, (NRCI-76/3, pp 167-74)
scope of information required on applicant's financial qualifications; LBP-76-015, B, (NRCI-76/4, pp 460-74)
show-cause proceeding for North Anna, modification of material false statement sanctions; ALAB-324, A, (NRCI-76/4, pp 347-403)
St. Lucie LWA undisturbed during appellate remand for alternative-site considerations; ALAB-335, A, (NRCI-76/6, pp 830-46)
standing and interests requisite for intervention; ALAB-322, (NRCI-76/4, pp 328-30)
steam generator tube integrity resolve left for operating stage; ALAB-306, (NRCI-76/1, pp 14-16)
technical issues discussed in Seabrook licensing; LBP-76-026, (NRCI-76/6, pp 857-949)
CONTENTIONS
admissibility where mixed questions of law and fact exist; LBP-76-014, B, (NRCI-76/4, pp 431-2)
legal resolve prior to evidentiary hearing denied; LBP-76-014, B, (NRCI-76/4, pp 431-2)
requirements for intervention; LBP-76-010, B, (NRCI-76/3, pp 209-22)
CONTRACTS
disclosure of proprietary nuclear fuel supply, interim stay; ALAB-307, (NRCI-76/1, pp 17-19)
CRITERIA
Commission guidelines for common defense and security determinations in facility export licensing; CLI-76-009, B, (NRCI-76/6, pp 739-70)
CROSS EXAMINATION
hypothetical questions limited to facts supported by evidence; ALAB-334, C, (NRCI-76/6, pp 816-17)
DAVIS-BESSE NUCLEAR POWER STATION, Unit 1
Commission authority to issue operating license prior to antitrust review completion; LBP-76-002, (NRCI-76/1, pp 39-43)
operating license, antitrust hearing must be completed prior to issuance;

ALAB-323, A, (NRCI-76/4, pp 331-46)
DAVIS-BESSE NUCLEAR POWER STATION, Units 1, 2, and 3
antitrust hearings, receipt of evidence dispute; ALAB-314, A, (NRCI-76/2, pp 98-100)
antitrust proceeding, criminal conspiracy law procedures denied; LBP-76-005, A, (NRCI-76/2, pp 127-34)
antitrust review, attorney disqualification remanded for evidentiary hearing; ALAB-332, A, (NRCI-76/6, pp 785-803)
antitrust review, attorney suspension for conflict of interest; LBP-76-011, A, (NRCI-76/3, pp 223-76)
antritrust proceedings, CID documents admissibility; LBP-76-008, A, (NRCI-76/3, pp 199-204)
DECISION, INITIAL
appeal period adjusted to comply with amended 10 CFR 2.762; ALAB-310, (NRCI-76/1, pp 33-5)
definition under 10 CFR 2.762(a); ALAB-331, B, (NRCI-76/6, p 774)
format deficiency remand; ALAB-305, A, (NRCI-76/1, pp 8-13)
format requirements for transcript citations; LBP-76-003, B, (NRCI-76/1, pp 44-72)
DECISION, PARTIAL INITIAL
interpretive inclusion of pre-LWA activity denial; ALAB-331, B, (NRCI-76/6, p 774)
DECLARATORY RELIEF
appellate status of ASLB determination; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
DECOMMISSIONING
impact of Seabrook facility on recreational, historical, economic and aesthetic potential of region; LBP-76-026, (NRCI-76/6, pp 857-949)
DEFINITIONS
initial decision status of pre-LWA activity rulings; ALAB-331, B, (NRCI-76/6, p 774)
DEPARTMENT OF JUSTICE
Civil Investigative Demand documents admissibility in NRC proceedings; LBP-76-008, B, (NRCI-76/3, pp 199-204)
DIABLO CANYON NUCLEAR POWER PLANT, Units 1 and 2
operating license, materials license grant appeal authority delegated to ASLAB; CLI-76-001, A, (NRCI-76/2, pp 73-5)
operating license, stay of nuclear fuel shipments to facility denied pending oral arguments; ALAB-320, (NRCI-76/3, pp 196-7)
operating license, unspent nuclear materials license prior to operating authorization affirmed; ALAB-334, A, (NRCI-76/6, pp 809-29)
DISCOVERY
appellate review policy for interlocutory rulings on proprietary information; ALAB-327, B, (NRCI-76/4, p 413)
applicability to disqualification hearing for attorney or law firm; ALAB-332, F, (NRCI-76/6, pp 800-02)
ASLB discretion for limitation, security plans; ALAB-334, D, (NRCI-76/6, pp 815-16)
criteria for obtaining protective order for proprietary information; ALAB-327, D, (NRCI-76/4, pp 413-15)
directed certification denied for interlocutory rulings; ALAB-318, A, (NRCI-76/3, pp 186-7)
disclosure of proprietary contracts, interim stay of Wolf Creek; ALAB-307, (NRCI-76/1, pp 17-19)
document production request after termination date; LBP-76-008, C, (NRCI-76/3, pp 199-204)
finality of order against non-party; ALAB-311, B, (NRCI-76/2, pp 87-8)
non-party rights in administrative proceedings; ALAB-311, C, (NRCI 76/2, pp 88-90)
nuclear fuel supply contract terms, appellate review of ASLB order; ALAB-311, A, (NRCI-76/2, pp 85-90)
private party information excluded from Commission jurisdiction; ALAB-327, C, (NRCI-76/4, pp 413-19)
remand of protective order denial for fuel supply contract; ALAB-327, A, (NRCI-76/4, pp 408-19)
rules of practice for certification of interlocutory rulings; ALAB-318, B,

(NRCI-76/3, pp 186-7)
DISQUALIFICATION
appellate status of attorney suspension by ASLB; LBP-76-011, B, (NRCI-76/3, pp 226-7)
applicant and staff attorneys for alleged violation of ex parte communications rule; ALAB-313, A, (NRCI-76/2, pp 94-7)
attorney misconduct in Perry and Davis-Besse remanded for hearing; ALAB-332, A, (NRCI-76/6, pp 785-803)
evidence admissibility in proceedings for; LBP-76-011, E, (NRCI-76/3, pp 228-9)
grounds for conflict-of-interest, for attorney; LBP-76-011, F, (NRCI-76/3, pp 229-32)
law firm suspension for conflict-of-interest in antitrust proceeding for Davis-Besse and Perry; LBP-76-011, A, (NRCI-76/3, pp 223-76)
rules of practice for participation rights, burden of proof and discovery for attorney or law firm; ALAB-332, F, (NRCI-76/6, pp 800-02)
rules of practice, attorney disclosure of specific confidences not necessary for disqualification; ALAB-332, B, (NRCI-76/6, pp 792-4)
standards for alleging misconduct related to information disclosure of former clients; ALAB-332, E, (NRCI-76/6, pp 797-9)
DOCUMENTS
admissibility of Civil Investigative Demand documents obtained for antitrust review by Department of Justice; LBP-76-008, B, (NRCI-76/3, pp 199-204)
DOUGLAS POINT NUCLEAR GENERATING STATION, Units 1 and 2
construction permit, intervention considerations; LBP-76-009, (NRCI-76/3, pp 205-08)
construction permit, joint evidentiary hearings noticed with State of Maryland; LBP-76-013, (NRCI-76/4, pp 425-29)
EARTHQUAKES
seismic design criteria for Seabrook; LBP-76-026, (NRCI-76/6, pp 857-949)
EFFLUENTS, RADIOACTIVE
control of Peach Bottom, implementation of court-ordered remand for cost-benefit study; CLI-76-003, (NRCI-76/2, pp 82-3)
Nepa and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
residual risks from plutonium exposure after regulations compliance; LBP-76-014, A, (NRCI-76/4, pp 430-44)
EFFLUENTS, THERMAL
Nepa and site suitability findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
ELECTRICITY
alternative considerations for Seabrook facility; LBP-76-026, (NRCI-76/6, pp 857-949)
need for Hartsville, conservation efforts and alternative power sources; LBP-76-016, A, (NRCI-76/4, pp 485-562)
need for power considerations for Seabrook; LBP-76-026, (NRCI-76/6, pp 857-949)
need for, interagency jurisdiction; LBP-76-016, B, (NRCI-76/4, pp 493-4)
power needs in light of net energy gain or loss from nuclear reactors; LBP-76-024, (NRCI-76/5, pp 725-38)
EMERGENCY CORE COOLING SYSTEM
design modifications for Beaver Valley operating license; LBP-76-023, (NRCI-76/5, pp 711-24)
EMERGENCY CORE COOLING SYSTEMS
acceptability of motor-operated valves for Beaver Valley; LBP-76-003, A, (NRCI-76/1, pp 44-72)
EMERGENCY CORE COOLING SYSTEMS, ACCEPTANCE CRITERIA
plant-life exemption for Big Rock; CLI-76-008, (NRCI-76/5, pp 598-606)
EMERGENCY PLANS
evacuation plans for Seabrook beach area; LBP-76-026, (NRCI-76/6, pp 857-949)
ENERGY CONSERVATION
effects on need for Hartsville Plant; LBP-76-016, A, (NRCI-76/4, pp 485-562)
ENERGY GAIN
inappropriateness as spent fuel storage pool licensing issue; LBP-76-024, (NRCI-76/5, pp 725-38)

ENERGY POLICY
inappropriateness as spent fuel storage pool licensing issue; LBP-76-024, (NRCI-76/5, pp 725-38)
ENVIRONMENTAL CONSIDERATIONS
alternative site requirements for LWA; ALAB-335, D, (NRCI-76/6, pp 842-6)
ASLB jurisdiction does not allow review of FWPCA permits; LBP-76-027, (NRCI-76/6, pp 950-2)
chlorine blowdown limitations for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
Commission responsibilities in absence of intervenor; ALAB-331, E, (NRCI-76/6, p 777)
cost-benefit analysis includes potential costs of safeguards, fuel cycle and transportation cycle; LBP-76-014, D, (NRCI-76/4, pp 433-42)
cost-benefit analysis, scope of information required on reactor fuel supply contract; LBP-76-015, B, (NRCI-76/4, pp 460-74)
cost-benefit balance for nuclear facilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
cost-benefit study for radioactive effluent control of Peach Bottom; CLI-76-003, (NRCI-76/2, pp 82-3)
dissenting opinion for Seabrook, finding for alternate site; LBP-76-026, (NRCI-76/6, pp 857-949)
extent of applicant control of exclusion area at LWA stage; LBP-76-018, (NRCI-76/5, pp 627-51)
federal action defined as used in NEPA; LBP-76-014, D, (NRCI-76/4, pp 433-42)
federal licensing agency responsibilities under NEPA; LBP-76-014, D, (NRCI-76/4, pp 433-42)
findings and conclusion for Seabrook; LBP-76-026, (NRCI-76/6, pp 857-949)
independent inquiry by a federal agency; LBP-76-014, D, (NRCI-76/4, pp 433-42)
need for power, power and site alternatives, water quality, socioeconomic impacts, and transmission line routing for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
NEPA policy weight in regulation interpretations; ALAB-321, H, (NRCI-76/4, pp 313-327)
NEPA relation to export licensing hearings intervention; CLI-76-006, D, (NRCI-76/5, pp 584-5)
NRC agency responsibilities under NEPA when other government agencies involved in licensing; LBP-76-016, B, (NRCI-76/4, pp 493-4)
NRC authority to mitigate environmental impact; LBP-76-016, B, (NRCI-76/4, pp 493-4)
NRC NEPA responsibilities for other government agency applicants; LBP-76-016, C, (NRCI-76/4, pp 494-5)
pre-LWA activity extent allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
proximity to other nuclear facilities, admissibility as issue in Clinch River licensing; LBP-76-014, A, (NRCI-76/4, pp 430-44)
redressability concept in 10 CFR 50.10(c); ALAB-331, D, (NRCI-76/6, pp 778-84)
relations between optimum alternative sub-system and total facility system; ALAB-321, G, (NRCI-76/4, pp 313-327)
remand proceedings effect on LWA status; ALAB-335, D, (NRCI-76/6, pp 842-6)
requirements for fuel recovery plant expansion; LBP-76-022, A, (NRCI-76/5, pp 706-10)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
socio-economic impact, interagency jurisdiction; LBP-76-016, B, (NRCI-76/4, pp 493-4)
transmission line clearance limitation for North Anna 1 and 2; LBP-76-001, (NRCI-76/1, pp 37-8)
transmission line routing, interagency jurisdiction; LBP-76-016, B, (NRCI-76/4, pp 493-4)
water quality, ASLB v. State requirements; LBP-76-018, (NRCI-76/5, pp 627-51)
ENVIRONMENTAL IMPACT STATEMENT
considerations appropriate for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)

timeliness, adequacy, and validity ruled as court-related issues not appropriate for NRC forum; LBP-76-014, A, (NRCI-76/4, pp 430-44)
ENVIRONMENTAL PROTECTION AGENCY
preliminary water quality determinations viability pending EPA adjudicatory hearings reaffirmed; LBP-76-027, (NRCI-76/6, pp 950-2)
ENVIRONMENTAL STATEMENT
requirements for public hearings initiation; LBP-76-022, B, (NRCI-76/5, pp 706-10)
EVIDENCE
see also Witnesses
admissibility for special disqualification proceedings; LBP-76-011, E, (NRCI-76/3, pp 228-9)
admissibility of Civil Investigative Demand documents obtained for antitrust review by Department of Justice; LBP-76-008, B, (NRCI-76/3, pp 199-204)
procedural rulings on admissibility and receipt, directed certification policy; ALAB-314, B, (NRCI-76/2, pp 98-100)
receipt limitations rulings held interlocutory; ALAB-314, A, (NRCI-76/2, pp 98-100)
supportive facts necessary for hypothetical-question cross examination; ALAB-334, C, (NRCI-76/6, pp 816-17)
weight of regulatory staff's submissions; ALAB-304, C, (NRCI-76/1, pp 1-7)
EX PARTE COMMUNICATIONS
ASLB and Staff obligations to assure all-party representation; ALAB-334, B, (NRCI-76/6, pp 814-15)
telephone conference calls guidelines; ALAB-313, B, (NRCI-76/2, pp 94-7)
violations alleged for conference telephone calls involving less than all parties; ALAB-313, A, (NRCI-76/2, pp 94-7)
EXCEPTIONS
appellate policy for briefing by category; ALAB-335, B, (NRCI-76/6, pp 832)
EXCLUSION AREA
control requirements for normal and accident conditions; ALAB-308, B, (NRCI-76/1, pp 20-30)
extent of applicant control at LWA stage; LBP-76-018, (NRCI-76/5, pp 627-51)
low-population-zone size v. engineered safeguards; ALAB-335, C, (NRCI-76/6, pp 833-4)
minimum size is not prescribed by regulations; ALAB-308, E, (NRCI-76/1, p 27, fn. 7)
modified proposal for San Onofre 2 and 3, remand hearings directed for tidal beach area control; ALAB-308, A, (NRCI-76/1, pp 20-30)
total control exceptions; ALAB-308, B, (NRCI-76/1, pp 20-30)
EXPORT LICENSE PROCEEDINGS
pending specific rules formulation timeliness guidelines for intervention petitions; CLI-76-006, E, (NRCI-76/5, pp 578-80)
EXPORT LICENSES
XR-99, nuclear steam supply system for Spain's ASCO II authorized; CLI-76-009, A, (NRCI-76/6, pp 739-70)
EXPORT LICENSING PROCESS
guidelines for common defense and security determinations; CLI-76-009, B, (NRCI-76/6, pp 739-70)
FACILITY
see specific facilities
FINANCIAL QUALIFICATIONS
scope of information required on applicants reactor fuel supply contract; LBP-76-015, B, (NRCI-76/4, pp 460-74)
FREEDOM OF INFORMATION ACT
relation to organization's intervention rights; CLI-76-006, B, (NRCI-76/5, pp 568-80)
FUEL
see Reactor Fuels
GOOD CAUSE
untimely document production request thought to furnish direct support to issues in controversy; LBP-76-008, C, (NRCI-76/3, pp 199-204)
GOVERNMENT AGENCIES
see specific agencies
interaction with NRC for NEPA review; LBP-76-016, C, (NRCI-76/4, pp 494-5)
GOVERNMENT POLICY

considerations in regulation interpretations; ALAB-321, H, (NRCI-76/4, pp 313-327)
GREEN COUNTY NUCLEAR POWER PLANT
antitrust aspects, intervention denied; LBP-76-020, (NRCI-76/5, pp 657-61)
HARTSVILLE NUCLEAR PLANT, Units 1A, 1B, 2A and 2B
construction permit, NEPA and site suitability findings for LWA; LBP-76-016, A, (NRCI-76/4, pp 485-562)
HEALTH AND SAFETY
effects in foreign countries resulting from export licensing outside Commission jurisdiction; CLI-76-006, C, (NRCI-76/5, pp 580-4)
HEARINGS
see also Construction Permits, Proceedings
see also Licensing Proceedings
see also Operating Licenses, Proceedings
attorney demand rights where charged with misconduct under 10 CFR 2.713(c); ALAB-332, F, (NRCI-76/6, pp 800-02)
combination construction and antitrust hearings must be scheduled by Commission; ALAB-316, D, (NRCI-76/3, pp 173-4)
Commission discretion allows hearing to be ordered in absence of proper request; CLI-76-006, F, (NRCI-76/5, p. 580)
delay potential impact on special nuclear materials export proceedings schedule; CLI-76-005, (NRCI-76/3, pp 161-5)
remand for attorney misconduct disqualification; ALAB-332, A, (NRCI-76/6, pp 785-803)
rights for initiation, NRC staff responsibilities; LBP-76-022, B, (NRCI-76/5, pp 706-10)
schedule modification for appeal period after initial decision issuance; ALAB-310, (NRCI-76/1, pp 33-5)
HEARINGS, NOTICE
joint evidentiary hearings scheduled with Maryland for Douglas Point construction; LBP-76-013, (NRCI-76/4, pp 425-29)
HEARINGS, REGULATION
ASLAB policy for reviewing interlocutory rulings; ALAB-314, B, (NRCI-76/2, pp 98-100)
HYDROGEN RECOMBINERS
seismic design calculations review for Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
INDIA
health-and-safety effects from export licensing outside Commission jurisdiction; CLI-76-006, C, (NRCI-76/5, pp 580-4)
impact of uranium export license delay, bifurcation of proceedings denied; CLI-76-005, (NRCI-76/3, pp 161-5)
reactor export licensing proceedings status for Tarapur; CLI-76-004, (NRCI-76/3, pp 159-60)
special nuclear materials export license for Tarapur, legislative hearings ordered, intervention denied; CLI-76-006, A, (NRCI-76/5, pp 563-93)
INDIAN POINT, Units 1, 2, and 3
operating license proceeding, seismic issues' intervention matters; ALAB-304, A, (NRCI-76/1, pp 1-7)
operating license stay for Unit 3 pending seismic issue resolve denied; ALAB-319, A, (NRCI-76/3, pp 188-95)
INFORMATION
disclosure by attorney from former client; ALAB-332, E, (NRCI-76/6, pp 797-9)
INITIAL DECISION
see Decision, Initial
INTERLOCUTORY APPEALS
see Appeals, Interlocutory
INTERVENORS
burden of proof in show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
cross-examination rights on hypothetical questions; ALAB-334, C, (NRCI-76/6, pp 816-17)
default declared for non-participation in Pilgrim proceedings; LBP-76-007, A, (NRCI-76/2, pp 156-8)
participation responsibilities, default declared; LBP-76-007, B, (NRCI-76/2,

pp 156-8)
participation rights for all telephone conference calls involving some ASLB members and attorneys; ALAB-313, A, (NRCI-76/2, pp 94-7)
particularized interest necessary for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
party participation rights in evidentiary remand proceedings; ALAB-335, E, (NRCI-76/6, p 841)
party rights to representation at telephone conferences; ALAB-334, B, (NRCI-76/6, pp 814-15)
INTERVENTION
absence does not affect Commission NEPA responsibilities during licensing review; ALAB-331, E, (NRCI-76/6, p 777)
admissibility of contentions, scope of ASLB review; LBP-76-014, B, (NRCI-76/4, pp 431-2)
affirmation of grant and denial for materials licenses proceeding; ALAB-328, A, (NRCI-76/4, pp 420-24)
certification policy for consideration of admitted contentions; ALAB-326, B, (NRCI-76/4, pp 406-07)
contentions requirements; LBP-76-010, B, (NRCI-76/3, pp 209-22)
criteria for contentions questioning validity of Commission rules; LBP-76-009, (NRCI-76/3, pp 205-08)
criteria for obtaining adjudicatory party status; LBP-76-012, B, (NRCI-76/3, pp 277-91)
denial of untimely petition for Indian Point 1, 2, and 3 seismic issues; ALAB-304, A, (NRCI-76/1, pp 1-7)
denied for Tarapur special nuclear materials export license; CLI-76-006, A, (NRCI-76/5, pp 563-93)
directed certification denied for Clinch River contentions; ALAB-326, A, (NRCI-76/4, pp 406-07)
documents incorporated by reference in their entirety; LBP-76-010, C, (NRCI-76/3, pp 209-22)
NEPA relation to export licensing hearings; CLI-76-006, D, (NRCI-76/5, pp 584-5)
operating license petition considerations; ALAB-305, C, (NRCI-76/1, pp 8-13)
organization's rights in relation to Freedom of Information Act; CLI-76-006, B, (NRCI-76/5, pp 568-80)
petition timeliness, pending development of specific rules and regulations; CLI-76-006, E, (NRCI-76/5, pp 578-80)
regulatory staff's position in licensing proceedings; ALAB-304, C, (NRCI-76/1, pp 1-7)
requirements for initiation of public hearings on license application; LBP-76-022, B, (NRCI-76/5, pp 706-10)
rules of practice for intervention standing; ALAB-328, B, (NRCI-76/4, pp 420-24)
rules of practice, Commission policy for reliance on judicial precedents; CLI-76-006, B, (NRCI-76/5, pp 568-80)
sabotage and discovery considerations limited by ASLB; ALAB-334, D, (NRCI-76/6, pp 815-16)
scope of issues ASLB delegated authority covers; ALAB-316, C, (NRCI-76/3, pp 170-4)
specificity and particularity required for antitrust petitions; LBP-76-020, (NRCI-76/5, pp 657-61)
standing and interests requisite for construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
standing for intervention of utility customer; ALAB-333, (NRCI-76/6, pp 804-08)
standing for Zimmer operating license proceeding, cause remanded; ALAB-305, A, (NRCI-76/1, pp 8-13)
standing, factual questions common to two proceedings; ALAB-304, B, (NRCI-76/1, pp 1-7)
untimely petition considerations for antitrust hearings; LBP-76-025, (NRCI-76/6, pp 847-56)
ISSUES
delineation for spent fuel storage facility licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
delineation of admissible contentions for Clinch River Breeder; LBP-76-014,

A, (NRCI-76/4, pp 430-44)
interlocutory status of ASLB admission or denial for construction permit proceedings, directed certification; ALAB-330, B, (NRCI-76/5, pp 613-20)
JAMESPORT NUCLEAR POWER STATION, Units 1 and 2
*construction permit, directed certification of interlocutory discovery rulings denied*; ALAB-318, A, (NRCI-76/3, pp 186-7)
JURISDICTION
see Atomic Safety and Licensing Appeal Board, Jurisdiction
see Atomic Safety and Licensing Board, Jurisdiction
see Nuclear Regulatory Commission, Jurisdiction
LICENSE TO OPERATE
*see Operating Licenses*
LICENSEE
see Applicant
LICENSING BOARD
see Atomic Safety and Licensing Board
LICENSING PROCEDURE
see also Rules of Practice
*directed certification policy for interlocutory ASLB rulings*; ALAB-314, B, (NRCI-76/2, pp 98-100)
scope of NRC NEPA responsibilities; ALAB-321, F, (NRCI-76/4, pp 304-13)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
LICENSING PROCEEDINGS
see also Construction Permits, Proceedings
see also Hearings
see also Operating Licenses, Proceedings
applications susceptible to prelicensing antitrust review; ALAB-316, B, (NRCI-76/3, pp 168-70)
ASLB jurisdiction over attorneys practicing in NRC forum; LBP-76-011, C, (NRCI-76/3, pp 227-8)
export of special nuclear material, Commission discretion to order hearing in absence of proper request; CLI-76-006, F, (NRCI-76/5, p. 580)
intervenor default by lack of participation; LBP-76-007, B, (NRCI-76/2, pp 156-8)
non-party rights for discovery appeal; ALAB-311, C, (NRCI 76/2, pp 88-90)
regulatory guide status in the adjudicatory process; LBP-76-014, C, (NRCI-76/4, p 432)
regulatory staff's role and evidence weight; ALAB-304, C, (NRCI-76/1, pp 1-7)
*res judicata, factual questions common to two proceedings*; ALAB-304, B, (NRCI-76/1, pp 1-7)
special appearance of affected non-party gives appeal rights; ALAB-311, C, (NRCI 76/2, pp 88-90)
standing to intervene, organizations; CLI-76-006, B, (NRCI-76/5, pp 568-80)
LIMITED WORK AUTHORIZATION
amendments for Perry, reactor building foundation mat; LBP-76-017, (NRCI-76/5, pp 621-6)
applicability to first-of-a-kind facility, accepted as issue for Clinch River Breeder; LBP-76-014, A, (NRCI-76/4, pp 430-44)
construction activities allowable at Wolf Creek prior to LWA issuance; LBP-76-019, (NRCI-76/5, pp 652-4)
findings for Cherokee; LBP-76-018, (NRCI-76/5, pp 627-51)
NEPA and site suitability findings for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
offsite construction prior to LWA issuance; ALAB-321, A, (NRCI-76/4, pp 293-330)
pre-issuance activity denial appealability; ALAB-331, B, (NRCI-76/6, p 774)
pre-issuance activity extent allowable; ALAB-331, D, (NRCI-76/6, pp 778-84)
status pending proceedings on remand, alternative site consideration; ALAB-335, D, (NRCI-76/6, pp 842-6)
MARBLE HILL NUCLEAR GENERATING STATION, Units 1 and 2
antitrust intervention denied for untimely petition; LBP-76-025, (NRCI-76/6, pp 847-56)
construction permit, intervention grants affirmed; ALAB-322, (NRCI-76/4, pp 328-30)
construction permit, scope of ASLB jurisdiction over intervention issues;

ALAB-316, A, (NRCI-76/3, pp 167-74)
MATERIAL FALSE STATEMENTS
criteria for determining; ALAB-324, C, (NRCI-76/4, pp 358-60)
definition and interpretation from Atomic Energy Act 186; ALAB-324, C, (NRCI-76/4, pp 358-60)
scienter requirement of Atomic Energy Act 186; ALAB-324, B, (NRCI-76/4, pp 356-8)
scope of liability under NRC regulations and Atomic Energy Act; ALAB-324, D, (NRCI-76/4, pp 362-4)
MATERIALS LICENSES
appeal from grant, authority delegated to ASLAB to hear Diablo Canyon; CLI-76-001, A, (NRCI-76/2, pp 73-5)
finality of grant during operating license proceedings for appellate purposes; CLI-76-001, B, (NRCI-76/2, pp 73-5)
issuance prior to operating license authorization; ALAB-334, A, (NRCI-76/6, pp 809-29)
MATERIALS LICENSES, PROCEEDINGS
intervention grants and denial affirmed for Barnwell Fuel Receiving and Storage; ALAB-328, A, (NRCI-76/4, pp 420-24)
NORTH ANNA POWER STATION, Units 1 and 2
construction permit compliance, material false statement penalties modified; ALAB-324, A, (NRCI-76/4, pp 347-403)
construction permits, transmission line clearance limitation; LBP-76-001, (NRCI-76/1, pp 37-8)
transmission line routing affirmed; ALAB-325, (NRCI-76/4, pp 404-05)
NORTH COAST NUCLEAR PLANT, Unit 1
construction permit, ex parte rule violations alleged; ALAB-313, A, (NRCI-76/2, pp 94-7)
NRC REGULATIONS
see Nuclear Regulatory Commission
see Rules and Regulations
NUCLEAR REGULATORY COMMISSION
authority delegated to ASLAB for appellate review of 19 CFR 70 license; CLI-76-001, A, (NRCI-76/2, pp 73-5)
certification from ASLAB concerning intervention standing of utility customer; ALAB-333, (NRCI-76/6, pp 804-08)
criteria for common defense and security determinations in facility export licensing; CLI-76-009, B, (NRCI-76/6, pp 739-70)
discretion to order hearing on export license in absence of proper request; CLI-76-006, F, (NRCI-76/5, p. 580)
jurisdiction to determine its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
NEPA responsibilities during licensing unaffected by absence of intervention; ALAB-331, E, (NRCI-76/6, p 777)
regulations interpretation should effect purpose of enactment; ALAB-331, C, (NRCI-76/6, pp 775-6)
status of Civil Investigative Demand documents for adjudicatory agency hearings; LBP-76-008, B, (NRCI-76/3, pp 199-204)
NUCLEAR REGULATORY COMMISSION, JURISDICTION
applicants' compliance with state permits; ALAB-308, D, (NRCI-76/1, p 30)
discovery of information in hands of a private party in view of Freedom of Information Act; ALAB-327, C, (NRCI-76/4, pp 413-19)
disqualification of attorneys practicing before adjudicatory boards; LBP-76-011, H, (NRCI-76/3, p 226)
health-and-safety effects in foreign countries resulting from export licensing held outside; CLI-76-006, C, (NRCI-76/5, pp 580-4)
interaction with other government agencies during licensing duties; LBP-76-016, B, (NRCI-76/4, pp 493-4)
NEPA responsibilities when other government agency applicant; LBP-76-016, C, (NRCI-76/4, pp 494-5)
NUCLEAR REGULATORY COMMISSION, PERSONNEL
burden of proof in show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
obligations relative to telephone-conference rulings; ALAB-334, B, (NRCI-76/6, pp 814-15)
regulatory staff's role and evidence weight in licensing proceedings;

ALAB-304, C, (NRCI-76/1, pp 1-7)
OPERATING LICENSES
ASLB authorization terminates its jurisdiction; ALAB-319, B, (NRCI-76/3, pp 188-95)
ASLB jurisdiction for imposition of conditions as sanction for material false statements; ALAB-324, G, (NRCI-76/4, pp 389-92)
interim low-power testing and operation authorized for Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
low-power testing authorized for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
stay of Indian Point 3 authorized-but-not-granted license denied pending resolve of seismic issues; ALAB-319, A, (NRCI-76/3, pp 188-95)
OPERATING LICENSES, PROCEEDINGS
antitrust grandfather clause inapplicability to Davis-Besse 1; ALAB-323, A, (NRCI-76/4, pp 331-46)
ASLB responsibilities after authorization of license; ALAB-319, B, (NRCI-76/3, pp 188-95)
fuel recovery plant expansion review requirements under NEPA; LBP-76-022, A, (NRCI-76/5, pp 706-10)
grandfather clause applicability; ALAB-323, C, (NRCI-76/4, pp 337-43)
intervention considerations for Barnwell Receiving and Storage Station; LBP-76-012, A, (NRCI-76/3, pp 277-91)
intervention granted on Browns Ferry license amendment; LBP-76-010, A, (NRCI-76/3, pp 209-22)
issues delineation for Barnwell Receiving and Storage; LBP-76-024, (NRCI-76/5, pp 725-38)
materials license issuance prior to operating license issuance affirmed; ALAB-334, A, (NRCI-76/6, pp 809-29)
NRC staff responsibilities after ASLB authorization of license; ALAB-319, B, (NRCI-76/3, pp 188-95)
resolve of issues arising after license authorization; ALAB-319, B, (NRCI-76/3, pp 188-95)
rules of practice for intervention qualification; ALAB-305, B, (NRCI-76/1, pp 8-13)
standards for interim licensing of mixed oxide reactor fuels; CLI-76-002, A, (NRCI-76/2, pp 76-81)
standing requisite for initiating; ALAB-305, C, (NRCI-76/1, pp 8-13)
stay of nuclear fuel shipments denied pending oral arguments; ALAB-320, (NRCI-76/3, pp 196-7)
PALO VERDE NUCLEAR GENERATING STATION, Units 1, 2 and 3
construction permits authorized by initial decision; LBP-76-021, (NRCI-76/5, pp 662-705)
PEACH BOTTOM ATOMIC POWER STATION, Units 2 and 3
operating license, continuance during court-ordered remand for cost-benefit study of radioactive emissions control; CLI-76-003, (NRCI-76/2, pp 82-3)
PEBBLE SPRINGS NUCLEAR PLANT, Units 1 and 2
construction permits, intervention standing certified to Commission for utility customer; ALAB-333, (NRCI-76/6, pp 804-08)
PERRY NUCLEAR POWER PLANT, Units 1 and 2
antitrust hearings, receipt of evidence dispute; ALAB-314, A, (NRCI-76/2, pp 98-100)
antitrust proceeding, criminal conspiracy law procedures denied; LBP-76-005, A, (NRCI-76/2, pp 127-34)
antitrust review, attorney disqualification remanded for evidentiary hearing; ALAB-332, A, (NRCI-76/6, pp 785-803)
antitrust review, attorney suspension for conflict of interest; LBP-76-011, A, (NRCI-76/3, pp 223-76)
antitrust proceedings, CID documents admissibility; LBP-76-008, A, (NRCI-76/3, pp 199-204)
construction permit proceedings, amendment to LWA authorized for reactor building foundation mat; LBP-76-017, (NRCI-76/5, pp 621-6)
PHYSICAL SECURITY
discovery limitation by ASLB; ALAB-334, D, (NRCI-76/6, pp 815-16)
PILGRIM NUCLEAR POWER STATION, Unit 2
construction permit, intervenor default for lack of participation; LBP-76-007, A, (NRCI-76/2, pp 156-8)

PLUTONIUM
residual risks from exposure after regulations compliance, admissibility as issue for construction permit; LBP-76-014, A, (NRCI-76/4, pp 430-44)
POPULATION DENSITY
exclusion-area size v. engineered safeguards; ALAB-335, C, (NRCI-76/6, pp 833-4)
socioeconomic factors appropriate for consideration at spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
PROOF, BURDEN OF
Administrative Procedure Act is not dispositive of agency show cause proceedings; ALAB-315, C, (NRCI-76/2, pp 104-106)
conflict of interest, attorney burden of explanation of future consequences; LBP-76-011, G, (NRCI-76/3, p 232)
dissenting opinion for determining agency show-cause; ALAB-315, E, (NRCI-76/2, pp 113-122)
moving party carries in attorney or law firm disqualification hearing; ALAB-332, F, (NRCI-76/6, pp 800-02)
rests on proponent initially in show cause proceedings then on licensee; ALAB-315, D, (NRCI-76/2, pp 110-112)
ultimate persuasion rests on licensee after proponent presents prima facie evidence of noncompliance; ALAB-315, A, (NRCI-76/2, pp 101-112)
PROPRIETARY INFORMATION
discovery disclosure of non-party, appeal rights; ALAB-311, C, (NRCI 76/2, pp 88-90)
discovery jurisdiction limited to Commission holdings; ALAB-327, C, (NRCI-76/4, pp 413-19)
protective order denial, appellate policy for interlocutory review; ALAB-327, B, (NRCI-76/4, p 413)
protective order, criteria for obtaining; ALAB-327, D, (NRCI-76/4, pp 413-15)
remand of protective order (fuel supply contract) denial; ALAB-327, A, (NRCI-76/4, pp 408-19)
QUALITY ASSURANCE
findings for low-power testing license for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
operational testing, monitoring and electrical equipment for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
RADIOACTIVE EFFLUENTS
see Effluents, Radioactive
RADIOACTIVE MATERIALS TRANSPORTATION
admissibility as construction permit issue; LBP-76-014, A, (NRCI-76/4, pp 430-44)
environmental considerations during cost benefit analysis; LBP-76-014, D, (NRCI-76/4, pp 433-42)
RAILROADS
construction activities allowable prior to LWA issuance; LBP-76-019, (NRCI-76/5, pp 652-4)
denial of pre-LWA construction affirmed for Wolf Creek; ALAB-331, A, (NRCI-76/6, pp 771-84)
offsite construction prior to LWA issuance; ALAB-321, A, (NRCI-76/4, pp 293-330)
pre-LWA construction denial appealability; ALAB-331, B, (NRCI-76/6, p 774)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
REACTOR COMPONENTS
condenser-cooling system effects on marine environment; LBP-76-026, (NRCI-76/6, pp 857-949)
steam generator tube integrity question at construction stage; ALAB-306, (NRCI-76/1, pp 14-16)
REACTOR COOLING SYSTEMS
auxiliary river water system for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
need for auxiliary river water intake for Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
primary coolant recirculation piping, use of 304 stainless steel; LBP-76-006, (NRCI-76/2, pp 135-55)
REACTOR FOUNDATION MAT

amended LWA authorized for Perry construction activities; LBP-76-017, (NRCI-76/5, pp 621-6)
REACTOR FUEL RODS
design margin limitations on 17 x 17 rod element for Beaver Valley interim operation; LBP-76-023, (NRCI-76/5, pp 711-24)
REACTOR FUELS
considerations appropriate for spent fuel storage pool licensing; LBP-76-024, (NRCI-76/5, pp 725-38)
contract terms subject to discovery disclosure, appellate consideration; ALAB-311, A, (NRCI-76/2, pp 85-90)
environmental considerations during cost benefit analysis; LBP-76-014, D, (NRCI-76/4, pp 433-42)
proprietary nature of financial data on supply contract; ALAB-327, D, (NRCI-76/4, pp 413-15)
risks associated with storage of unspent; ALAB-334, A, (NRCI-76/6, pp 809-29)
shipments to Diablo Canyon continued pending hearing on merits; ALAB-320, (NRCI-76/3, pp 196-7)
standards for interim licensing use of mixed oxide, stay denial; CLI-76-002, A, (NRCI-76/2, pp 76-81)
supply contract details, remand of denial of protective order; ALAB-327, A, (NRCI-76/4, pp 408-19)
supply contract terms, disclosure order stayed pending review; ALAB-307, (NRCI-76/1, pp 17-19)
supply contract, scope of information required for construction permit; LBP-76-015, B, (NRCI-76/4, pp 460-74)
uranium utilization efficiency findings for River Bend remanded; ALAB-317, A, (NRCI-76/3, pp 175-85)
RECORD
importance where ASLB chairman change occurs during evidentiary proceeding; LBP-76-004, B, (NRCI-76/2, pp 123-26)
RECORDS AND DOCUMENTS
discovery jurisdiction limited to Commission holdings; ALAB-327, C, (NRCI-76/4, pp 413-19)
RECREATION
impact of Seabrook facility on daily beach population; LBP-76-026, (NRCI-76/6, pp 857-949)
REDRESSABILITY
extent of concept under 10 CFR 50.10(c) LWA activities; ALAB-331, D, (NRCI-76/6, pp 778-84)
REGULATORY GUIDES
status in adjudicatory licensing process; LBP-76-014, C, (NRCI-76/4, p 432)
REGULATORY STAFF
see Nuclear Regulatory Commission, Personnel
REMAND
effects on existing LWA where alternative site consideration is at issue; ALAB-335, D, (NRCI-76/6, pp 842-6)
party rights for participation in further development of evidentiary record; ALAB-335, E, (NRCI-76/6, p 841)
RES JUDICATA
application in attorney disqualification before initial and special ASLBs; ALAB-332, C, (NRCI-76/6, pp 792-4)
intervention standing on factual questions common to two proceedings; ALAB-304, B, (NRCI-76/1, pp 1-7)
RISKS
standing for intervention in Commission proceedings; CLI-76-006, B, (NRCI-76/5, pp 568-80)
RIVER BEND STATION, Units 1 and 2
construction permit proceedings, appellate rights under 10 CFR 2.715(c) and 2.714a; ALAB-329, (NRCI-76/5, pp 607-12)
construction permit, NEPA and site suitability findings on uranium utilization efficiency remanded; ALAB-317, A, (NRCI-76/3, pp 175-85)
ROADS
construction activities allowable prior to LWA issuance; LBP-76-019, (NRCI-76/5, pp 652-4)
offsite construction prior to LWA issuance; ALAB-321, A, (NRCI-76/4, pp

293-330)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
RULES AND REGULATIONS
ASLAB interpretation limitations for regulations; ALAB-308, C, (NRCI-76/1, pp 25-26)
ASLB authority to interpret during exercise of delegated duties; ALAB-321, D, (NRCI-76/4, p 300)
ASLB jurisdiction does not allow review of FWPCA permits; LBP-76-027, (NRCI-76/6, pp 950-2)
construction context and purpose outweigh syntax; ALAB-323, B, (NRCI-76/4, pp 335-7)
context and purpose v. syntax weight for interpretation; ALAB-321, H, (NRCI-76/4, pp 313-327)
employee obedience, applicants' senior management attitudes; ALAB-324, G, (NRCI-76/4, pp 389-92)
exclusion area minimum size is not prescribed by Commission; ALAB-308, E, (NRCI-76/1, p 27, fn. 7)
interpretation should focus on purpose of enactment; ALAB-331, C, (NRCI-76/6, pp 775-6)
interpretations conflicting with broad government policy; ALAB-321, H, (NRCI-76/4, pp 313-327)
interrelationship of APA and Atomic Energy Act for burden of proof assignment in agency hearings; ALAB-315, C, (NRCI-76/2, pp 104-106)
overlapping government agency responsibilities; LBP-76-016, B, (NRCI-76/4, pp 493-4)
pending development for export license proceeding, timeliness of intervention petitions; CLI-76-006, E, (NRCI-76/5, pp 578-80)
regulatory guide status in adjudicatory licensing process; LBP-76-014, C, (NRCI-76/4, p 432)
violations of reporting requirements; ALAB-324, D, (NRCI-76/4, pp 362-4)
violations of reporting requirements under Atomic Energy Act or NRC; ALAB-324, C, (NRCI-76/4, pp 358-60)
RULES OF PRACTICE
see also Licensing, Procedure
administrative fairness in show-cause proceedings; ALAB-324, E, (NRCI-76/4, p 368 fn. 24)
agency (ASLB) jurisdiction to determine its own jurisdiction; ALAB-321, B, (NRCI-76/4, p 299)
antitrust hearings designated by Commission; ALAB-316, D, (NRCI-76/3, pp 173-4)
antitrust review completion prior to issuance of operating license; LBP-76-002, (NRCI-76/1, pp 39-43)
appeal period for initial decision issued after March 2, 1973; ALAB-310, (NRCI-76/1, pp 33-5)
appellate policy for briefing exceptions by category; ALAB-335, B, (NRCI-76/6, pp 832)
appellate policy for directed certification of ASLB interlocutory rulings; ALAB-330, B, (NRCI-76/5, pp 613-20)
appellate policy for review of ASLB rulings on pre-LWA activity; ALAB-331, B, (NRCI-76/6, p 774)
appellate review of interlocutory denial of protective discovery orders; ALAB-327, B, (NRCI-76/4, p 413)
appellate review procedure for non-party objecting to information disclosure; ALAB-311, C, (NRCI 76/2, pp 88-90)
appellate review rights confined to proceeding participants; ALAB-311, D, (NRCI-76/2, pp 88)
appellate review rights of interested state under 10 CFR 2.714a and 2.715(c); ALAB-329, (NRCI-76/5, pp 607-12)
appellate status of discovery order against non-party; ALAB-311, B, (NRCI-76/2, pp 87-8)
appellate status of state intervenor under 10 CFR 2.715(c); ALAB-317, B, (NRCI-76/3, pp 175-85)
ASLAB interpretation limitations for regulations; ALAB-308, C, (NRCI-76/1, pp 25-26)
ASLAB jurisdiction over attorney suspensions; LBP-76-011, B, (NRCI-76/3, pp 226-7)

ASLB chairman change during evidentiary proceeding, effects on trial; LBP-76-004, B, (NRCI-76/2, pp 123-26)
attorney disqualification grounds for conflict-of-interest; LBP-76-011, F, (NRCI-76/3, pp 229-32)
attorney disqualification, disclosure of information from former client; ALAB-332, E, (NRCI-76/6, pp 797-9)
attorney disqualification, role of hearing board and special board; ALAB-332, C, (NRCI-76/6, pp 792-4)
burden of proof, initial and ultimate in show cause proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
certification of ASLB contention admissions; ALAB-326, B, (NRCI-76/4, pp 406-07)
certification of interlocutory discovery rulings; ALAB-318, B, (NRCI-76/3, pp 186-7)
construction of statutes, context and purpose outweigh syntax; ALAB-323, B, (NRCI-76/4, pp 335-7)
cross examination on hypothetical questions require supportive evidence; ALAB-334, C, (NRCI-76/6, pp 816-17)
declaratory relief by administrative tribunal; ALAB-321, C, (NRCI-76/4, pp 298-304, 316-22)
disqualification jurisdiction over attorneys' outside activities; LBP-76-011, H, (NRCI-76/3, p 226)
disqualification participation, discovery and burden of proof; ALAB-332, F, (NRCI-76/6, pp 800-02)
evidence admissibility for special attorney disqualification proceedings; LBP-76-011, E, (NRCI-76/3, pp 228-9)
ex parte communications guidelines for ASLB and ASLAB; ALAB-313, B, (NRCI-76/2, pp 94-7)
ex parte communications rule regarding conference telephone calls; ALAB-313, A, (NRCI-76/2, pp 94-7)
expert witnesses, demeanor v. qualifications; LBP-76-004, C, (NRCI-76/2, pp 123-26)
intervenor default for lack of participation; LBP-76-007, B, (NRCI-76/2, pp 156-8)
intervention petition criteria for antitrust proceedings; LBP-76-020, (NRCI-76/5, pp 657-61)
intervention petition format, document incorporation in entirety; LBP-76-010, C, (NRCI-76/3, pp 209-22)
intervention petition requirements for contentions; LBP-76-010, B, (NRCI-76/3, pp 209-22)
intervention petition, factual questions common to two proceedings; ALAB-304, B, (NRCI-76/1, pp 1-7)
intervention standing and interests requisite for construction permit proceedings; ALAB-322, (NRCI-76/4, pp 328-30)
issues delineation for spent fuel storage pool licensing proceeding; LBP-76-024, (NRCI-76/5, pp 725-38)
material false statements, ASLB considerations; ALAB-324, C, (NRCI-76/4, pp 358-60)
non-party discovery rights; ALAB-311, C, (NRCI 76/2, pp 88-90)
operating license hearing initiation; ALAB-305, B, (NRCI-76/1, pp 8-13)
party participation rights in evidentiary remand proceedings; ALAB-335, E, (NRCI-76/6, p 841)
pre-LWA construction activity allowability considerations; ALAB-331, D, (NRCI-76/6, pp 778-84)
prelicensing antitrust review, susceptible applications; ALAB-316, B, (NRCI-76/3, pp 168-70)
protective orders for proprietary information; ALAB-327, D, (NRCI-76/4, pp 413-15)
regulations interpretation should focus on purpose of enactment; ALAB-331, C, (NRCI-76/6, pp 775-6)
regulatory guide status in adjudicatory licensing process; LBP-76-014, C, (NRCI-76/4, p 432)
scope of ASLB authority in intervention issues; ALAB-316, C, (NRCI-76/3, pp 170-4)
scope of information required on applicant's financial qualifications; LBP-76-015, B, (NRCI-76/4, pp 460-74)

standards for interim licensing use of mixed oxide fuel, effectiveness of; CLI-76-002, A, (NRCI-76/2, pp 76-81)
standing and contentions' requirements for intervention grant; LBP-76-012, B, (NRCI-76/3, pp 277-91)
standing to intervene in materials license proceedings; ALAB-328, B, (NRCI-76/4, pp 420-24)
standing to intervene, organization's internal purposes; CLI-76-006, B, (NRCI-76/5, pp 568-80)
stay granting criteria pending judicial review; CLI-76-002, B, (NRCI-76/2, pp 76-81)
telephone conference rulings, written confirmation required; ALAB-334, B, (NRCI-76/6, pp 814-15)
timeliness of intervention petitions for export license proceedings; CLI-76-006, E, (NRCI-76/5, pp 578-80)
transcript citations in initial decisions and appellate review; LBP-76-003, B, (NRCI-76/1, pp 44-72)
untimely antitrust intervention petition considerations; LBP-76-025, (NRCI-76/6, pp 847-56)
SABOTAGE
admissibility as construction permit issue; LBP-76-014, A, (NRCI-76/4, pp 430-44)
discovery limitations; ALAB-334, D, (NRCI-76/6, pp 815-16)
SAFETY
ASLAB interpretive powers for regulations; ALAB-308, C, (NRCI-76/1, pp 25-26)
considerations relative to alternative environmental sub-system decisions; ALAB-321, G, (NRCI-76/4, pp 313-327)
employee knowledge, applicant liability during show-cause proceedings; ALAB-324, F, (NRCI-76/4, pp 377-8)
justification for show cause proceeding initiation; ALAB-315, B, (NRCI-76/2, pp 103-104)
power lock-out requirement for certain motor-operated valves for Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
risks associated with unspent reactor fuel storage; ALAB-334, A, (NRCI-76/6, pp 809-29)
SAN ONOFRE GENERATING STATION, Units 2 and 3
construction permit, modified exclusion area proposal review requires additional hearings; ALAB-308, A, (NRCI-76/1, pp 20-30)
SANCTIONS
civil penalties, ASLB jurisdiction for imposition; ALAB-324, G, (NRCI-76/4, pp 389-92)
license conditions, ASLB jurisdiction for imposition; ALAB-324, G, (NRCI-76/4, pp 389-92)
SEABROOK NUCLEAR STATION, Units 1 and 2
construction permit stay denied pending EPA water quality review; LBP-76-027, (NRCI-76/6, pp 950-2)
construction permit, mistrial motion denied for ASLB Chairman change; LBP-76-004, A, (NRCI-76/2, pp 123-26)
construction permits authorized by initial decision; LBP-76-026, (NRCI-76/6, pp 857-949)
SECURITY MEASURES
NEPA considerations during cost-benefit analysis; LBP-76-014, D, (NRCI-76/4, pp 433-42)
sabotage,terrorism or theft preventive programs, admissibility as construction permit issues; LBP-76-014, A, (NRCI-76/4, pp 430-44)
SEISMIC CONSIDERATIONS
design calculations review for Beaver Valley, hydrogen recombiners; LBP-76-023, (NRCI-76/5, pp 711-24)
SEWER LINE CONNECTIONS
construction-permit condition vacated for reconsideration during remand for St. Lucie; ALAB-335, A, (NRCI-76/6, pp 830-46)
SHOW CAUSE PROCEEDINGS
administrative fairness in agency hearings; ALAB-324, E, (NRCI-76/4, p 368 fn. 24)
applicant liability for employee knowledge; ALAB-324, F, (NRCI-76/4, pp 377-8)

ASLB jurisdiction for imposition of sanctions; ALAB-324, G, (NRCI-76/4, pp 389-92)
burden of proof in administrative proceedings; ALAB-315, D, (NRCI-76/2, pp 110-112)
burden of proof in agency proceedings; ALAB-315, A, (NRCI-76/2, pp 101-112)
public safety as justification for initiation; ALAB-315, B, (NRCI-76/2, pp 103-104)
SITE EVALUATION
alternatives for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
dissenting opinion for Seabrook, finding for alternate site; LBP-76-026, (NRCI-76/6, pp 857-949)
employee knowledge, applicant liability during show-cause proceedings; ALAB-324, F, (NRCI-76/4, pp 377-8)
findings for St. Lucie remanded for additional alternative-site consideration; ALAB-335, A, (NRCI-76/6, pp 830-46)
method of evaluating alternative locations, remand of St. Lucie NEPA findings; ALAB-335, A, (NRCI-76/6, pp 830-46)
seismic design calculations review for Beaver Valley, hydrogen recombiners; LBP-76-023, (NRCI-76/5, pp 711-24)
SOCIOECONOMIC FACTORS
historical, archeological, cultural, and architectural concerns for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
SOLAR ENERGY
potential as electric power alternative; LBP-76-016, A, (NRCI-76/4, pp 485-562)
SOUTH TEXAS PROJECT NUCLEAR GENERATING STATION, Units 1 and 2
construction permits affirmed by sua sponte review; ALAB-306, (NRCI-76/1, pp 14-16)
SPAIN
nuclear steam supply system authorized for export to Spain for ASCO II; CLI-76-009, A, (NRCI-76/6, pp 739-70)
SPECIAL NUCLEAR MATERIALS, EXPORT LICENSES
bifurcation of XSNM-805 and XSNM-845 for uranium shipments to India denied; CLI-76-005, (NRCI-76/3, pp 161-5)
health-and-safety effects in foreign countries outside Commission jurisdiction; CLI-76-006, C, (NRCI-76/5, pp 580-4)
legislative-type hearing ordered for Tarapur (XSNM-805, XSNM-845) intervention denied; CLI-76-006, A, (NRCI-76/5, pp 563-93)
XSNM-805 and XSNM-845 hearing schedule and procedure; CLI-76-007, (NRCI-76/5, pp 594-7)
XSNM-805, legislative-type hearing ordered, intervention denied; CLI-76-006, A, (NRCI-76/5, pp 563-93)
XSNM-805, status of proceedings for Tarapur (India); CLI-76-004, (NRCI-76/3, pp 159-60)
XSNM-845, legislative-type hearing ordered, intervention denied; CLI-76-006, A, (NRCI-76/5, pp 563-93)
XSNM-845, status of proceedings for Tarapur (India); CLI-76-004, (NRCI-76/3, pp 159-60)
SPECIAL NUCLEAR MATERIALS, EXPORT LICENSES PROCEEDINGS
public intervention rights under NEPA; CLI-76-006, D, (NRCI-76/5, pp 584-5)
ST. LUCIE NUCLEAR POWER PLANT, Unit 2
construction permit, LWA undisturbed during appellate remand for alternative site considerations; ALAB-335, A, (NRCI-76/6, pp 830-46)
construction permit, sewer-line-connection condition vacated for ASLB reconsideration; ALAB-335, A, (NRCI-76/6, pp 830-46)
STATEMENTS
scienter requirement of Atomic Energy Act 186 for falsity; ALAB-324, B, (NRCI-76/4, pp 356-8)
STATES
joint evidentiary hearings with NRC; LBP-76-013, (NRCI-76/4, pp 425-29)
jurisdiction over water quality, Federal v. State; LBP-76-018, (NRCI-76/5, pp 627-51)
regulatory requirements compliance not within Commission jurisdiction; ALAB-308, D, (NRCI-76/1, p 30)
STAY
criteria for granting emergency, pending judicial review; CLI-76-002, B,

(NRCI-76/2, pp 76-81)
denial for effectiveness of standards for interim licensing use of mixed oxide fuel; CLI-76-002, A, (NRCI-76/2, pp 76-81)
nuclear fuel shipments to Diablo Canyon continued pending oral argument; ALAB-320, (NRCI-76/3, pp 196-7)
STEAM GENERATORS
tube integrity considerations during interim licensing of Beaver Valley; LBP-76-023, (NRCI-76/5, pp 711-24)
tube integrity resolution left for operating stage licensing resolve; ALAB-306, (NRCI-76/1, pp 14-16)
water hammer effect control for Beaver Valley 1; LBP-76-003, A, (NRCI-76/1, pp 44-72)
TARAPUR ATOMIC POWER STATION, Units 1 and 2
export license proceedings, hearing schedule and procedure; CLI-76-007, (NRCI-76/5, pp 594-7)
export license proceedings, time extension for hearing preparation; CLI-76-007, (NRCI-76/5, pp 594-7)
export licensing proceedings status; CLI-76-004, (NRCI-76/3, pp 159-60)
refuelling with uranium, export licensing proceedings bifurcation denied; CLI-76-005, (NRCI-76/3, pp 161-5)
special nuclear materials export license hearing ordered, intervention denied; CLI-76-006, A, (NRCI-76/5, pp 563-93)
TELEPHONE CONFERENCES
rules of practice, stressing public relations; ALAB-334, B, (NRCI-76/6, pp 814-15)
TENNESSEE VALLEY AUTHORITY
interaction with NRC during reactor licensing; LBP-76-016, B, (NRCI-76/4, pp 493-4)
interaction with NRC for NEPA review; LBP-76-016, C, (NRCI-76/4, pp 494-5)
TESTIMONY
see Witnesses
THERMAL EFFLUENTS
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
TIME, EXTENSION
granted for export licensing hearing preparation following multi-agency agreement; CLI-76-007, (NRCI-76/5, pp 594-7)
TIMELINESS
antitrust hearings denied relative to untimely petition; LBP-76-025, (NRCI-76/6, pp 847-56)
good cause for late document production request; LBP-76-008, C, (NRCI-76/3, pp 199-204)
guidelines for intervention petitions for export license proceedings pending specific rules and regulations; CLI-76-006, E, (NRCI-76/5, pp 578-80)
TRANSCRIPT
initial decision format requirements for citations; LBP-76-003, B, (NRCI-76/1, pp 44-72)
TRANSMISSION LINES
clearance limitation imposed for North Anna 1 and 2; LBP-76-001, (NRCI-76/1, pp 37-8)
overlapping governmental jurisdiction for routing control; LBP-76-016, B, (NRCI-76/4, pp 493-4)
routes for Hartsville; LBP-76-016, A, (NRCI-76/4, pp 485-562)
routing affirmed for North Anna 1 and 2; ALAB-325, (NRCI-76/4, pp 404-05)
scope of NRC NEPA responsibilities; ALAB-321, E, (NRCI-76/4, pp 304-13)
URANIUM
export licensing schedule for India refuelling of Tarapur; CLI-76-005, (NRCI-76/3, pp 161-5)
sufficiency of supply, adequacy of River Bend considerations; ALAB-317, A, (NRCI-76/3, pp 175-85)
VALVES
acceptability of motor-operated ECCS; LBP-76-003, A, (NRCI-76/1, pp 44-72)
power lock-out requirement for Beaver Valley operating license; LBP-76-023, (NRCI-76/5, pp 711-24)
WASTE DISPOSAL
sewer-line-connection requirements vacated for St. Lucie; ALAB-335, A, (NRCI-76/6, pp 830-46)

WATER QUALITY
  see Environmental Considerations
WILLIAM H. ZIMMER NUCLEAR POWER STATION
  operating license proceeding, intervention grant remanded for petition re-evaluation; ALAB-305, A, (NRCI-76/1, pp 8-13)
WITNESSES
  demeanor v. qualification of expert; LBP-76-004, C, (NRCI-76/2, pp 123-26)
WOLF CREEK NUCLEAR GENERATING STATION, Unit 1
  construction permit proceedings, activities allowable prior to LWA issuance; LBP-76-019, (NRCI-76/5, pp 652-4)
  construction permit proceedings, ASLB jurisdictional scope for offsite preparation; ALAB-321, A, (NRCI-76/4, pp 293-330)
  construction permit, appellate review of non-party discovery matters; ALAB-311, A, (NRCI-76/2, pp 85-90)
  construction permit, pre-LWA railroad construction denial affirmed; ALAB-331, A, (NRCI-76/6, pp 771-84)
  construction permit, remand of protective discovery order (fuel supply contract); ALAB-327, A, (NRCI-76/4, pp 408-19)
  construction permit, stay of disclosure order for claimed proprietary nuclear fuel supply contract; ALAB-307, (NRCI-76/1, pp 17-19)
WPPSS NUCLEAR PROJECT, Unit 1
  construction permit authorization affirmed by sua sponte review; ALAB-309, (NRCI-76/1, pp 31-2)
WPPSS NUCLEAR PROJECT, Unit 4
  construction permit, further hearings on applicant's financial qualifications requested; ALAB-309, (NRCI-76/1, pp 31-2)

ASCO NUCLEAR POWER PLANT, Unit 2; Docket 50474
Facility, Reactor Export License; 06-21-76; Decision; CLI-76-009 (NRCI-76/6, pp 739-70)
BARNWELL FUEL RECEIVING AND STORAGE STATION; Docket 701729
Materials License; 03-25-76; Memorandum and Order; LBP-76-012 (NRCI-76/3, pp 277-91)
Materials License; 04-28-76; Decision; ALAB-328 (NRCI-76/4, pp 420-24)
Operating License; 05-27-76; Memorandum and Order; LBP-76-022 (NRCI-76/5, pp 706-10)
Operating License; 05-28-76; Memorandum and Order; LBP-76-024 (NRCI-76/5, pp 725-38)
BEAVER VALLEY POWER STATION, Unit 1; Docket 50334
Operating License; 01-22-76; Initial Decision; LBP-76-003 (NRCI-76/1, pp 44-72)
Operating License; 01-23-76; Order; ALAB-310 (NRCI-76/1, pp 33-5)
Operating License; 05-28-76; Initial Decision, Supplemental; LBP-76-023 (NRCI-76/5, pp 711-24)
BIG ROCK POINT NUCLEAR POWER STATION; Docket 50155
Operating License, Compliance; 05-26-76; Memorandum and Order; CLI-76-008 (NRCI-76/5, pp 598-606)
BRAIDWOOD STATION, Units 1 and 2; Docket STN 50456;STN 50457
Construction Permit; 02-05-76; Decision; ALAB-312 (NRCI-75/2, pp 91-3)
BROWNS FERRY NUCLEAR PLANT, Units 1 and 2; Dockets 50259;50260
Operating License; 03-11-76; Ruling on Petition to Intervene; LBP-76-010 (NRCI-76/3, pp 209-22)
BYRON STATION, Units 1 and 2; Dockets STN 50454;STN 50455
Construction Permit; 02-05-76; Decision; ALAB-312 (NRCI-75/2, pp 91-3)
CALLOWAY PLANT, Units 1 and 2; Dockets STN-50483;STN-50486
Construction Permit; 04-08-76; Initial Decision; LBP-76-015 (NRCI-76/4, pp 445-84)
CHEROKEE NUCLEAR STATION, Units 1, 2 and 3; Dockets 50491;50492;50493
Construction Permit; 05-21-76; Initial Decision, Partial -Nepa and Site Suitability; LBP-76-018 (NRCI-76/5, pp 627-51)
CLINCH RIVER BREEDER REACTOR PLANT; Docket 50537
Construction Permit; 04-06-76; Memorandum and Order; LBP-76-014 (NRCI-76/4, pp 430-44)
Construction Permit; 04-19-76; Memorandum and Order; ALAB-326 (NRCI-76/4, pp 406-07)
Construction Permit; 05-12-76; Memorandum and Order; ALAB-330 (NRCI-76/5, pp 613-20)
CLINTON POWER STATION, Units 1 and 2; Dockets 50461;50462
Construction Permit; 02-20-76; Initial Decision; LBP-76-006 (NRCI-76/2, pp 135-55)
DAVIS-BESSE NUCLEAR POWER STATION, Unit 1; Docket 50346A
Operating License, Antitrust; 04-14-76; Decision; ALAB-323 (NRCI-76/4, pp 331-46)
DAVIS-BESSE NUCLEAR POWER STATION, Units 1, 2, and 3; Dockets 50346A;50500A;50501A
Antitrust; 01-07-76; Memorandum and Order; LBP-76-002 (NRCI-76/1, pp 39-43)
Antitrust; 02-09-76; Memorandum and Order; LBP-76-005 (NRCI-76/2, pp 127-34)
Antitrust; 02-26-76; Memorandum and Order; ALAB-314 (NRCI-76/2, pp 98-100)
Antitrust; 03-01-76; Memorandum; LBP-76-008 (NRCI-76/3, pp 199-204)

Antitrust; 06-11-76; Decision; ALAB-332 (NRCI-76/6, pp 785-803)
Licensing, Antitrust; 03-19-76; Order; LBP-76-011 (NRCI-76/3, pp 223-76)
DIABLO CANYON NUCLEAR POWER PLANT, Units 1 and 2; Dockets 50275 OL;50323 OL
Operating License; 02-05-76; Memorandum and Order; CLI-76-001 (NRCI-76/2, pp 73-5)
Operating License; 03-18-76; Order; ALAB-320 (NRCI-76/3, pp 196-7)
Operating License; 06-22-76; Decision; ALAB-334 (NRCI-76/6, pp 809-29)
DOUGLAS POINT NUCLEAR GENERATING STATION, Units 1 and 2; Dockets 50448;50449
Construction Permit; 03-08-76; Order; LBP-76-009 (NRCI-76/3, pp 205-08)
Construction Permit; 04-01-76; Order, Prehearing Conference and Evidentiary Hearing; LBP-76-013 (NRCI-76/4, pp 425-29)
GREEN COUNTY NUCLEAR POWER PLANT; Docket 50549A
Construction Permit; 05-20-76; Memorandum and Order; LBP-76-020 (NRCI-76/5, pp 657-61)
HARTSVILLE NUCLEAR PLANT, Units 1A, 1B, 2A and 2B; Dockets STN-50518;STN-50519;STN-50520;STN-50521
04-20-76; Partial Initial Decision, Site suitability and NEPA findings; LBP-76-016 (NRCI-76/4, pp 485-562)
INDIAN POINT, Units 1, 2, and 3; Dockets 50300;50247;50286
Operating License; 03-16-76; Memorandum and Order; ALAB-319 (NRCI-76/3, pp 188-95)
Operating License, Compliance; 01-06-76; Decision; ALAB-304 (NRCI-76/1, pp 1-7)
JAMESPORT NUCLEAR POWER STATION, Units 1 and 2; Docket 50516;50517
Construction Permit; 03-16-76; Memorandum and Order; ALAB-318 (NRCI-76/3, pp 186-7)
LIGHT WATER NUCLEAR POWER REACTORS;
Mixed Oxide Fuel Licensing, Interim; 02-12-76; Memorandum and Order; CLI-76-002 (NRCI-76/2, pp 76-81)
MARBLE HILL NUCLEAR GENERATING STATION, Units 1 and 2; Dockets 50546A; 50547A
Antitrust; 06-15-76; Memorandum and Order; LBP-76-025 (NRCI-76/6, pp 847-56)
Construction Permit; 03-03-76; Decision; ALAB-316 (NRCI-76/3, pp 167-74)
Construction Permit; 04-14-76; Decision; ALAB-322 (NRCI-76/4, pp 328-30)
MIDLAND PLANT, Units 1 and 2; CP-81;CP-82
Compliance; 02-27-76; Opinion on Reconsideration; ALAB-315 (NRCI-76/2, pp 101-112)
NORTH ANNA POWER STATION, Units 1 and 2; Dockets 50338;50339
Construction Permit; 01-06-76; Order; LBP-76-001 (NRCI-76/1, pp 37-8)
Construction Permit; 04-16-76; Decision; ALAB-325 (NRCI-76/4, pp 404-05)
Construction Permit, Compliance; 04-15-76; Decision; ALAB-324 (NRCI-76/4, pp 347-403)
NORTH COAST NUCLEAR PLANT, Unit 1; Docket 50376
Construction Permit; 02-24-76; Memorandum and Order; ALAB-313 (NRCI-76/2, pp 94-7)
PALO VERDE NUCLEAR GENERATING STATION, Units 1, 2 and 3; Dockets STN 50528;STN 50529;STN 50530
Construction Permit; 05-26-76; Initial Decision; LBP-76-021 (NRCI-76/5, pp 662-705)
PEACH BOTTOM ATOMIC POWER STATION, Units 2 and 3; Dockets 50277;50278
Operating License; 02-25-76; Order; CLI-76-003 (NRCI-76/2, pp 82-3)
PEBBLE SPRINGS NUCLEAR PLANT, Units 1 and 2; Dockets 50514;50515
Construction Permit; 06-22-76; Memorandum and Certification to Commission; ALAB-333 (NRCI-76/6, pp 804-08)
PERRY NUCLEAR POWER PLANT, Units 1 and 2; Docket 50440A;50441A
Antitrust; 01-07-76; Memorandum and Order; LBP-76-002 (NRCI-76/1, pp 39-43)
Antitrust; 02-09-76; Memorandum and Order; LBP-76-005 (NRCI-76/2, pp 127-34)
Antitrust; 02-26-76; Memorandum and Order; ALAB-314 (NRCI-76/2, pp 98-100)
Antitrust; 03-01-76; Memorandum; LBP-76-008 (NRCI-76/3, pp 199-204)
Antitrust; 06-11-76; Decision; ALAB-332 (NRCI-76/6, pp 785-803)
Construction Permit; 05-10-76; Initial Decision, Supplemental Partial; LBP-76-017 (NRCI-76/5, pp 621-6)
Licensing, Antitrust; 03-19-76; Order; LBP-76-011 (NRCI-76/3, pp 223-76)
PILGRIM NUCLEAR POWER STATION, Unit 2; Docket 50471
Construction Permit; 02-20-76; Order; LBP-76-007 (NRCI-76/2, pp 156-8)
RIVER BEND STATION, Units 1 and 2; Dockets 50458;50459
Construction Permit; 03-04-76; Memorandum and Order; ALAB-317 (NRCI-76/3, pp

175-85)
Construction Permit; 05-10-76; Memorandum and Order; ALAB-329 (NRCI-76/5, pp 607-12)
SAN ONOFRE GENERATING STATION, Units 2 and 3; Dockets 50361;50362
Construction Permit; 01-22-76; Memorandum and Order; ALAB-308 (NRCI-76/1, pp 20-30)
SEABROOK NUCLEAR STATION, Units 1 and 2; Dockets 50443;50444
Construction Permit; 02-04-76; Memorandum and Order; LBP-76-004 (NRCI-76/2, pp 123-26)
Construction Permit; 06-29-76; Initial Decision; LBP-76-026 (NRCI-76/6, pp 857-949)
Construction Permit; 06-29-76; Memorandum and Order; LBP-76-027 (NRCI-76/6, pp 950-2)
SOUTH TEXAS PROJECT NUCLEAR GENERATING STATION, Units 1 and 2; Dockets STN 50498;STN 50499
Construction Permit; 01-28-76; Decision; ALAB-306 (NRCI-76/1, pp 14-16)
ST. LUCIE NUCLEAR POWER PLANT, Unit 2; Docket 50389
Construction Permit; 06-29-76; Decision; ALAB-335 (NRCI-76/6, pp 830-46)
TARAPUR ATOMIC POWER STATICN, Units 1 and 2; Dockets 702071;702131
Special Nuclear Materials Export License; 03-17-76; Order; CLI-76-004 (NRCI-76/3, pp 159-60)
Special Nuclear Materials, Export License; 03-25-76; Order; CLI-76-005 (NRCI-76/3, pp 161-5)
Special Nuclear Materials, Export License; 05-07-76; Opinion; CLI-76-006 (NRCI-76/5, pp 563-93)
Special Nuclear Material, Export License; 05-21-76; Order; CLI-76-007 (NRCI-76/5, pp 594-7)
WILLIAM H. ZIMMER NUCLEAR POWER STATION; Docket 50358
Operating License; 01-07-76; Decision; ALAB-305 (NRCI-76/1, pp 8-13)
WOLF CREEK NUCLEAR GENERATING STATION, Unit 1; Docket STN 50482
Construction Permit; 01-20-76; Memorandum and Order; ALAB-307 (NRCI-76/1, pp 17-19)
Construction Permit; 02-03-76; Memorandum and Order; ALAB-311 (NRCI-76/2, pp 85-90)
Construction Permit; 04-07-76; Decision; ALAB-321 (NRCI-76/4, pp 293-330)
Construction Permit; 04-27-76; Decision; ALAB-327 (NRCI-76/4, pp 408-19)
Construction Permit; 05-18-76; Order; LBP-76-019 (NRCI-76/5, pp 652-4)
Construction Permit; 06-08-76; Decision; ALAB-331 (NRCI-76/6, pp 771-84)
WPPSS NUCLEAR PROJECT, Units 1 and 4; Dockets STN-50460;STN 50513
Construction Permit; 01-23-76; Decision; ALAB-309 (NRCI-76/1, pp 31-2)