

November 1, 1982

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

'82 NOV -3 AIO:28

Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of )

CLEVELAND ELECTRIC ILLUMINATING )  
COMPANY, et al. )

(Perry Nuclear Power Plant, )  
Units 1 and 2) )

Docket Nos. 50-440  
50-441  
(OL)

OCRE SUPPLEMENTAL RESPONSE TO APPLICANTS' FIRST SET OF  
INTERROGATORIES AND REQUEST FOR PRODUCTION OF DOCUMENTS

Intervenor Ohio Citizens for Responsible Energy ("OCRE") hereby updates its response to certain interrogatories in Applicants' First Set of Interrogatories and Request for Production of Documents to OCRE, dated October 15, 1981. OCRE is also updating the responses made by Sunflower Alliance, et al. to those interrogatories pertaining to Issues 4 and 6, for which OCRE is now lead intervenor (see September 17, 1982 Memorandum and Order, Concerning Procedural Motions). OCRE will not reproduce here the interrogatories propounded it, in order to conserve its scarce resources. OCRE will respond to those interrogatories in the same sequence and numeration encountered. Only those interrogatories pertaining to Issues 4 through 7 are addressed in this filing; Issue 1 interrogatories will be updated at a time closer to the as yet unscheduled hearing date for this issue.

OCRE will not provide herewith the documents identified

in these responses, as most of them are readily and publicly available. However, OCRE will provide Applicants with copies of any documents they are unable to obtain otherwise, at a cost of \$0.10 per page, plus postage.

ISSUE #4

31. OCRE hereby identifies the additional documents pertaining to Issue #4:

NUREG/CR-2540, "A Method for the Analysis of Hydrogen and Steam Releases to Containment During Degraded Core Cooling Accidents" February 1982.

NUREG/CR-1558, "BWR Refill-Reflood Program Task 4.2 -- Core Spray Distribution Experimental Task Plan" August 1980.

NEDO-24712, "Core Spray Design Methodology Confirmation Tests" S. A. Sandoz, et al. General Electric, August 1979.

NEDO-20566-3, "General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR 50 Appendix K, Amendment No. 3 -- Effect of Steam Environment on BWR Core Spray Distribution" April 1977

Letter, dated February 3, 1978 from Darrel Eisenhut and Denwood Ross, NRC, to G. G. Sherwood, GE.

Letter, dated January 30, 1981 from Robert Tedesco, NRC, to G. G. Sherwood, GE.

Proposed rule to 10 CFR Part 50, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water-Cooled Nuclear Power Plants" 43 Fed. Reg. 57157 (December 6, 1978).

Memorandum, dated July 2, 1981, from Wayne Hodges, Reactor Systems Branch, Division of Systems Integration, to Roger J.

Mattson, Director, DSI, re: "Summary of May 29, 1981 Meeting with General Electric on 'Proposed ECCS Approach for BWRs'".

Letter, dated June 13, 1978 from Olan D. Parr, NRC, to G. G. Sherwood, GE, re "Review of General Electric Topical Report NEDO-20566 Amendment 3"

Letter, dated April 17, 1979 from A. J. Levine, GE, to D. G. Eisenhut and R. L. Tedesco, NRC, re "Request for Additional Information on General Electric Core Spray Distribution Program".

Memorandum, dated December 11, 1981, from Robert L. Tedesco, Division of Licensing, to the Shoreham ASLB, re Japanese Core Spray Distribution Tests.

ISSUE #5

NOTE: OCRE hereby adopts as an amendment in supplementation to its answers to interrogatories on Issue #5 the responses of Sunflower Alliance, et al. to interrogatories 37-42.

14. Delete the name of Robert Alexander as a person having first-hand knowledge of the facts alleged in Issue #5.

16. OCRE hereby identifies the following additional documents pertaining to Issue #5:

Drawings prepared by Gilbert Associates, Inc. for CEI: PNPP Control Rod Drive Hydraulic System, D-304-877, Rev. H and D-304-878, Rev. F; PNPP Final Plant Layout, E-001-014, Rev. 16.

Letter, dated March 11, 1982, from Dalwyn R. Davidson, CEI, to James G. Aeppler, NRC Region III, re CRD Stress Analysis.

Letter, dated March 29, 1982 from A. Schwencer, NRC, to Dalwyn Davidson, CEI, re Fast Scram hydrodynamic Loads on CRD.

Letter, dated April 15, 1982 from Dalwyn Davidson, CEI to

A. Schwencer, NRC, re Fast Scram Hydrodynamic Loads on CRD.

PNO-III-81-109, on suspected act of vandalism to SDV piping, and memorandum, dated January 26, 1982, for Region III files, on same subject.

Letter, dated June 29, 1981, from D. Davidson, CEI, to James Keppler, NRC Region III, re socket weld fit-ups for CRD piping.

Letter, dated June 3, 1982, from D. Davidson, CEI, to James Keppler, NRC Region III, re socket weld fitups for CRD piping.

#### ISSUE #6

45. OCRE hereby identifies the following additional documents pertaining to Issue #6:

Proposed rule to 10 CFR Part 50: "Standards for the Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants" 46 Fed. Reg. 57521 (November 24, 1981).

SECY-80-409, "Proposed Rulemaking to Amend 10 CFR Part 50 Concerning Anticipated Transient Without Scram (ATWS) Events" September 4, 1980.

Letter, dated August 6, 1982, from H.L. Hrenda and H.A. Putre, CEI, to R.C. Mitchell, GE, re "Perry Nuclear Power Plant Units #1 and #2 Review of NEDE 25518"

Letter, dated August 9, 1982, from H.L. Hrenda and H.A. Putre, CEI, to R.C. Mitchell, GE, re "PNPP Units #1 and #2 Quotation

No. 149A Request for Modification"

"Anticipated Transients Without Scram" by G.S. Lellouche.  
Nuclear Safety, Vol. 21, No. 4, July-August 1980, pp. 469-480.

IE Bulletin 80-17, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR"; with supplements 1-5.

IE Information Notice 80-45, "Potential Failure of BWR Backup Manual Scram Capability" dated December 17, 1980.

IE Information Notice 80-43, "Failures of the Continuous Water Level Monitor for the Scram Discharge Volume at Dresden Unit No. 2" dated December 5, 1980.

IE Information Notice 81-16, "Control Rod Drive System Malfunctions" dated April 23, 1981.

IE Information Notice 81-11, "Alternate Rod Insertion for BWR Scram Represents a Potential Path for Loss of Primary Coolant" dated March 30, 1981.

IE Bulletin 80-14, "Degradation of Scram Discharge Volume Capability" dated June 12, 1980.

IE Information Notice 80-30, "Potential for Unacceptable Interaction Between the Control Rod Drive Scram Function and Non-Essential Control Air at Certain GE BWR Facilities" dated August 19, 1980.

Generic Safety Evaluation Report on BWR Scram Discharge System, dated December 1, 1980.

NUREG/CR-1659, Volume 4, "Reactor Safety Study Methodology Applications Program: Grand Gulf #1 BWR Power Plant" October 1981

NUREG/CR-0400, "Risk Assessment Review Group Report to the U.S. Nuclear Regulatory Commission"



NEDE-25518, "Design Analyses and SAR Inputs for ATWS Performance and Standby Liquid Control System, Perry Plant," December 1981.

Section 4.3.5 of the Reed Report.

NEDO-24222, "Assessment of BWR Mitigation of ATWS, Volume 1" General Electric, February 1981

NEDO-24222, Volume 2.

Electric Utilities' Petition for Rulemaking on ATWS, PRM-50-29, September 16, 1980.

Electric Utilities' "Criteria for Evaluation of Scram Discharge Volume Systems for Boiling Water Reactors" January 5, 1981. PRM-50-29.

Memorandum, dated June 9, 1981, from Joseph M. Hendrie to Commissioners Gilinsky, Bradford, and Ahearne, on ATWS.

Memorandum, dated September 25, 1980, for William J. Dircks and Leonard Bickwit, Jr. from Samuel J. Chilk, re Commission briefing on SECY-80-409.

NEDO-10189, "An Analysis of Functional Common-Mode Failures in GE BWR Protection and Control Instrumentation" General Electric, July 1970.

Letter, dated October 7, 1974 from Ivan F. Stuart, GE, to Victor Stello, Jr, NRC, re ATWS.

Letter, dated January 9, 1975, from Ivan Stuart, GE, to Victor Stello, Jr., responding to an NRC request on ATWS.

Letter, dated January 28, 1975, from Victor Stello, Jr., NRC to Ivan Stuart, GE, requesting additional information on NEDO-20626.

NEDO-10802, "Analytical Methods of Plant Transient Evalua-

tions for the General Electric Boiling Water Reactor" February 1973; NEDO-10802, Amendment 1, April 1975; NEDO-10802, Amendment 2, June 1975.

NRC's "Status Report for Anticipated Transients Without Scram for General Electric Reactors" December 9, 1975.

Letter, dated April 7, 1976, from R. Heineman, NRC, to I. Stuart, GE, re ATWS issues.

Letter, dated July 2, 1976, from E. Hughes, GE, to D. Ross, NRC, re responses to NRC ATWS status report.

NEDO-21283, "Response to Stability Questions from NRC on Hatch 1 Plant" General Electric, June 1976.

Letter, dated August 31, 1976, from R. Heineman, NRC, to G. Sherwood, GE, re NRC response to AIF guidelines.

EPRI NP-251, "ATWS--A Reappraisal; Part 1: An Examination and Analysis of WASH-1270" August 1976.

EPRI NP-265, "ATWS--A Reappraisal, Part II: Evaluation of Societal Risks due to Reactor Protection System Failure; Vols. 1 and 2, BWR Risk Analysis" August 1976.

Letter, dated September 30, 1976, from E. Hughes, GE, to D. Ross, NRC, transmitting GE ATWS Report appendices (OCRE does have these appendices).

Letter, dated July 7, 1978, from G. Sherwood, GE, to E. Case, NRC, re ATWS.

Letter, dated August 4, 1978, from H.R. Denton, NRC, to G. Sherwood, GE, response to above letter of July 7, 1978.

Letter, dated January 23, 1980, from R.P. Denise, NRC, to G. Sherwood, GE, re ODYN code.

Memorandum, dated January 6, 1977, from D. Ross to R. Heineman, re GE ATWS meeting.

The Accident Hazards of Nuclear Power Plants, by Dr. Richard E. Webb. Univ. of Mass., 1976.

47. (a) OCRE hereby adopts as a supplementary answer the argument "that a lengthy time delay before the ATWS is mitigated by the manual SLCS is likely and that other mitigation systems are only partially effective in lessening the consequences of ATWS," given at pp. 3-7 of "Ohio Citizens for Responsible Energy Motion to Compel Discovery on Staff and Applicants," dated September 20, 1982.

ISSUE #7

22. OCRE hereby identifies the following additional documents pertaining to Issue #7:

Abnormal Occurrence; Blockage of Coolant Flow to Safety-Related Systems and Components. 47 Fed. Reg. 21653 (May 19, 1982)

"Report on Service Water System Flow Blockages by Bivalve Mollusks at Arkansas Nuclear One and Brunswick" Office for Analysis and Evaluation of Operational Data, February, 1982.

"Recolonization of Reactor Cooling Water System by the Asiatic Clam Corbicula Fluminea" by R.S. Harvey. The Nautilus, Vol. 95(3), July 10, 1981, pp. 131-136.

"Corbicula Fluminea, in Lake Erie" by Arthur H. Clarke. The Nautilus, Vol. 95(2), April 30, 1981, pp. 83-84.

"The Influence of Thermal Discharges and Substrate Composition on the Population Structure and Distribution of the Asiatic Clam, Corbicula Fluminea, in the New River, Virginia" by Robert



L. Graney, et al. The Nautilus, Vol. 94(4), October 30, 1980, pp. 130-135.

IE Bulletin 81-03, "Flow Blockage of Cooling Water to Safety System Components by Corbicula Sp. (Asiatic clam) and Mytilus Sp. (Mussel)" dated April 10, 1981.

IE Information Notice 81-21, "Potential Loss of Direct Access to Ultimate Heat Sink" dated July 21, 1981.

"Corbicula Reconnaissance Survey at the Perry Nuclear Power Plant Site May 1981" prepared for CEI by NUS Corp., October 30, 1981.

"June 1982 Survey of Lake Erie for Corbicula Monitoring Program at Perry Nuclear Power Plant" prepared for CEI by NUS Corp., July 15, 1982.

Tabulated results of responses to IE Bulletin 81-03 from operating facilities and those proposed and under construction.

Responses to IE Bulletin 81-03 from applicants/licensees of the following facilities: Fermi 2, Davis-Besse, Perry, Arkansas Nuclear One, Beaver Valley 1, Browns Ferry, Sequoyah, Dresden 2 & 3, Quad Cities 1 & 2, Farley 1 & 2, McGuire, Oconee, Trojan.

NUREG-0887, Perry SER, Section 9.2.1.

NUREG-0884, Perry FES, p. viii and pp. 4-18 & 4-19.

27. (a) and (b) The methodology outlined in the "Corbicula Reconnaissance Survey, May 1981" and the "June 1982 Survey of Lake Erie for Corbicula" (both prepared for CEI by NUS Corp.) is probably sufficient to detect adult or older juvenile Corbicula. Of course, whether any specimens collected are correctly identified depends upon the knowledge and experience of the person(s) making the identifications and upon the accuracy

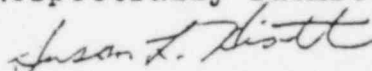
and quality of the references, taxonomic keys, etc. utilized for this purpose.

The methodology is insufficient for detecting Corbicula larvae. These larvae are very small, 200-240 microns in size. (AEOD Report, p. 16). The May 1981 "Corbicula Reconnaissance Survey" at p. 2 states that "the residue containing the benthic invertebrates was hand-sorted using a dissecting microscope at 6x magnification." Thus, Corbicula larvae would have an apparent size of approximately one millimeter under magnification. Although they would be visible, it is questionable whether they would be correctly identified. In addition, the June 1982 "Survey of Lake Erie" gives no indication that any samples are examined microscopically; rather, samples were only examined for bivalve shells or shell fragments.

(c) Detection and identification of Corbicula larvae would be facilitated by using higher magnification.

General Note: In response to Interrogatories 32 and 40 of Applicants' First Set to Sunflower and Interrogatories 17 and 23 of Applicants' First Set to OCRE, OCRE states that potentially any or all of the documents identified herein, previously, or subsequently by OCRE in response to interrogatories and/or requests for production of documents may be offered as exhibits or used in cross-examination in support of the respective issues.

Respectfully submitted,

  
Susan L. Hiatt  
OCRE Representative  
8275 Munson Rd.  
Mentor, OH 44060

AFFIDAVIT

I, Susan L. Hiatt, having been duly sworn depose and say that I am responsible for the foregoing supplemental responses to interrogatories filed by Applicants and that these responses are true to the best of my knowledge and belief.

Susan L. Hiatt

Susan L. Hiatt

Sworn to and subscribed before me this 1<sup>st</sup> day of November, 1982.

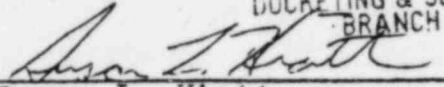
Marley Ford Eiger  
Notary Public

MARLEY FORD EIGER, Attorney At Law  
Notary Public - State of Ohio  
My commission has no expiration date.  
Section 147.03 R. C.

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing OCRE USNRC  
SUPPLEMENTAL RESPONSES TO APPLICANTS' FIRST SET OF INTERROGA-  
TORIES AND REQUEST FOR PRODUCTION OF DOCUMENTS were served by  
deposit in the U.S. Mail, first class, postage prepaid 82 NOV -3 110:28  
1st day of November, 1982 to those on the service list below.

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BRANCH

  
Susan L. Hiatt

SERVICE LIST

Peter B. Bloch, Chairman  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Comm'n  
Washington, D.C. 20555

Daniel D. Wilt, Esq.  
P.O. Box 08159  
Cleveland, OH 44108

Dr. Jerry R. Kline  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Comm'n  
Washington, D.C. 20555

Frederick J. Shon  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Comm'n  
Washington, D.C. 20555

Docketing and Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Comm'n  
Washington, D.C. 20555

James M. Cutchin, IV, Esq.  
Office of the Executive  
Legal Director  
U.S. Nuclear Regulatory Comm'n  
Washington, D.C. 20555

Jay Silberg, Esq.  
1800 M Street, N.W.  
Washington, D.C. 20036

Atomic Safety and Licensing Appeal Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555