

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Amendment to License Nos.
DPR-24 and DPR-27
(Increase Spent Fuel
Storage Capacity)

APPLICANT'S ANSWERS TO INTERROGATORIES
PROPOUNDED BY THE NRC STAFF
ON SEPTEMBER 29, 1978

Interrogatory 1

State whether or not you intend to present any witnesses in this proceeding on the subject of

- | | | | | | |
|-----|---------------|-----|----------------|-----|----------------|
| (a) | Contention 1 | (j) | Contention 3h | (s) | Contention 16b |
| (b) | Contention 2 | (k) | Contention 5 | (t) | Contention 16c |
| (c) | Contention 3a | (l) | Contention 6 | (u) | Contention 16d |
| (d) | Contention 3b | (m) | Contention 7 | (v) | Contention 16e |
| (e) | Contention 3c | (n) | Contention 8 | (w) | Contention 16f |
| (f) | Contention 3d | (o) | Contention 9 | (x) | Contention 16g |
| (g) | Contention 3e | (p) | Contention 11a | (y) | Contention 16h |
| (h) | Contention 3f | (q) | Contention 11b | (z) | Contention 16i |
| (i) | Contention 3g | (r) | Contention 16a | | |

and provide the names, addresses, educational background, and professional qualifications of those witnesses you intend to present.

RESPONSE:

Plans for the presentation of Applicant's case have not yet been fully developed or finalized, however, it is Applicant's present intention to present witnesses to address the subjects of the specified contentions. The tentative witness list is as follows:

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<u>Identifier</u>	<u>Name</u>	<u>Affiliation</u>
RAN	Roger A. Newton	Wisconsin Electric Power Company
EJL	Edward J. Lipke	Wisconsin Electric Power Company
Bechtel	Arthur RanaId Bailey	Bechtel Power Corporation
Wachter	Warren T. Witzig	Pennsylvania State University
Westinghouse	Not yet identified	Westinghouse Electric Corporation

Details of the witnesses' addresses, educational background and professional qualifications are attached. Tentatively, the specific contentions to be addressed by each witness are as follows:

(a) Contention 1, EJL	(n) Contention 8, RAN
(b) Contention 2, EJL	(o) Contention 9, RAN, EJL
(c) Contention 3a, RAN	(p) Contention 11a, EJL
(d) Contention 3b, RAN	(q) Contention 11b, EJL
(e) Contention 3c, RAN, EJL	(r) Contention 16a, Westinghouse
(f) Contention 3d, RAN	(s) Contention 16b, Westinghouse
(g) Contention 3e, RAN	(t) Contention 16c, Westinghouse
(h) Contention 3f, Bechtel	(u) Contention 16d, RAN
(i) Contention 3g, EJL	(v) Contention 16e, RAN
(j) Contention 3h, RAN, Wachter	(w) Contention 16f, Westinghouse
(k) Contention 5, RAN	(x) Contention 16g, RAN
(l) Contention 6, RAN, EJL	(y) Contention 16h, Westinghouse
(m) Contention 7, EJL	(z) Contention 16i, RAN

RESUME

Roger A. Newton

Senior Nuclear Engineer
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisconsin

Education:

- 1964 University of Wisconsin, B.S. in Mechanical Engineering
- 1966 Bettis Atomic Power Laboratory Nuclear Engineering School

Experience:

- 1973 - Present: Senior Nuclear Engineer for Wisconsin Electric Power Company. Engineering project management in the areas of nuclear core design, accident analysis, primary system design, fuel handling and storage, plant instrumentation and control, electrical systems, and turbine generator design for new and operating plants.
- 1968 - 1973: Reactor Engineer at Point Beach Nuclear Plant. Responsible for initial plant staff training of operators in nuclear reactor behavior and plant transient response, plant startup testing from initial core loading to full power operation, fuel receipt and inspection and plant nuclear core performance. Obtained senior reactor operators license for Point Beach in 1971.
- 1966 - 1968: Technical assistant for Wisconsin Electric Power Company, training assignment at Westinghouse Electric Corporation, PWR Division. Assisted Westinghouse engineers in preparation of procedures and actual core loading of the San Onofre Nuclear Plant and startup testing of the Connecticut Yankee Nuclear Plant. Assisted in the control system setpoint study for the Robert Emmet Ginna Nuclear Plant.
- 1964 - 1966: Westinghouse Electric Corporation, Bettis Atomic Power Laboratory. Test equipment design and data analysis of nuclear submarine steam generator behavior. Attended the six month full-time Nuclear Engineering School covering advanced courses in mathematics, heat transfer, shielding, control theory, nuclear physics, and nuclear design.

RESUME

Edward J. Lipke

Project Engineer (Nuclear Plant)
Wisconsin Electric Power Company
231 West Michigan
Milwaukee, Wisconsin

Education:

Educational background of the Radiation Protection Officer (Edward J. Lipke) is as follows:

B.S., 1964, Biology, University of Detroit
M.S., 1965, Radiological Health, Wayne State University
M.S., 1967, Environmental Health Sciences (Radiological Health),
University of Michigan
Ph.D., 1971, Environmental Health Sciences (Radiological Health),
University of Michigan

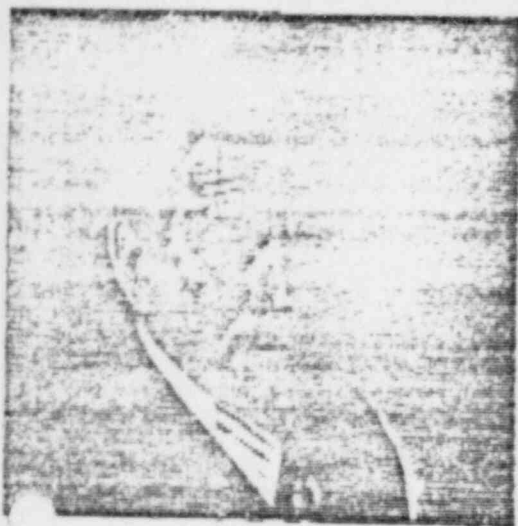
This totals approximately seven years of formal training in a) principles and practices of radiation protection, b) radioactivity measurement standardization and monitoring techniques and instruments, c) mathematics and calculations basic to the use and measurement of radioactivity, d) biological effects of radiation, and 3) other related science and engineering areas.

Experience:

~2 weeks as summer student at Fermi I;
~2 months as summer student at Battelle - Northwest (Hanford)
~2 years as Radiological Engineer at Vallecitos Nuclear Center (General Electric)
~1-1/2 years as Senior Scientist at Bettis Atomic Power Laboratory (Westinghouse)
~4 years to present as Project Engineer (Nuclear Plant) at Wisconsin Electric Power Company, Nuclear Projects Office

BECHTEL POWER CORPORATION - PERSONAL RESUME

NAME ARTHUR RAMALD BAILEY DATE January 1978



CLASSIFICATION Engineering Group Supervisor

ORGANIZATION & LOCATION SFPD

San Francisco, CA

BIRTH DATE 8/18/35 CITIZENSHIP U.S.A.

ORIGINAL BECHTEL EMPLOYMENT DATE 1957

RE-EMPLOYMENT DATE(S) --

NAME OF SPOUSE Kay

CHILDREN'S BIRTH DATES 8/56, 12/58

MILITARY SERVICE & RANK --

PHOTO DATE 10/73

PROFESSIONAL LICENSES AND SOCIETIES

Registered Professional Civil/Structural Engineer, California and Massachusetts

EDUCATION AND PERSONNEL DEVELOPMENT PROGRAMS

DEGREE, CERTIFICATE, ETC.	SCHOOL	MAJOR (OR SUBJECT)	DATE
AB	Dartmouth College	Engineering	1956
MS	Thayer School of Engineering	Civil Engineer	1957

OTHER SIGNIFICANT INFORMATION

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WORK HISTORY

DATES		COMPANY, DIVISION, OR DEPARTMENT: LOCATION AND SUPERIOR	POSITION HELD, SUMMARY OF RESPONSIBILITIES, AND SIGNIFICANT ACCOMPLISHMENTS
FROM	TO		
1957	1966	BC	Engineer on various projects.
1966	1969	BC, P&I Division San Francisco, CA J.K. Leslie	Civil group supervisor: assigned to Point Beach project. Registered professional engineer in Wisconsin.
1969	1971	BC, P&I Division San Francisco, CA D.W. Halligan	Project engineer and civil supervisor: performed miscellaneous studies.
1971	1972	BC, P&I Division San Francisco, CA J.K. Leslie	Civil group supervisor: assigned to Mendocino project.
1972	Present	BPC, SFPD San Francisco, CA B.N. Pusheck	Civil group supervisor: assigned to Pilgrim 2 project. Attended ACRS Sub-committee meeting in Plymouth, Mass., November, 1975.

RESUME

WARREN F. WITZIG

Residence:

1330 Park Hills Avenue
State College, Pennsylvania
16801
Telephone: 814-238-6885

Office:

231 Sackett Building
The Pennsylvania State University
University Park, Pennsylvania 16802
Telephone: 814-865-4911

Education:

1942 Rensselaer Polytechnic Institute, B.S. in Electrical Engineering
1944 University of Pittsburgh, M.S. in Electrical Engineering
1952 University of Pittsburgh, Ph.D. in Physics

Experience:

- 1967 - Present Pennsylvania State University. Professor and Department Head of Nuclear Engineering. Here he is responsible to one of the largest student programs in Nuclear Engineering. Nuclear Engineering Research is conducted in areas of Reactor Design and Safety, Fuel Cycle and Nuclear Economics. He is responsible for the administration of the following facilities: The TRIGA Mark III Reactor, the Cobalt-60 Facility and nuclear laboratories.
- 1960 - 1967 NUS Corporation. Senior Vice-President and Board of Directors member. Under his technical direction, the Corporation grew from a two-man organization to the largest independent nuclear consultants of over two hundred engineers and scientists. Overall responsibility for technical direction of work related to the application of nuclear energy for the production of electricity, small military reactors, test reactors, the use of nuclear reactors and isotopes in aerospace. Supervision of physics, environmental sciences, mechanical engineering, thermal and safeguards engineering is involved. Management responsibilities for professional standards, salaries and marketing.
- 1942 - 1960 Westinghouse Research and Bettis Plant. During the war worked on the Manhattan District program on high vacuum systems, heat transfer, mass spectroscopy and ionic centrifuge as a scientist. After the war, he served as the first experimenter in the Materials Testing Reactor and later as engineering manager of in-pile tests for the naval reactor program in Hanford, Chalk River and the MTR-ETR complex. He was responsible for the S5W reactor design and engineering used in the SKIPJACK and GEORGE WASHINGTON series of nuclear submarines which are still being built today.

Publications:

"Induction Heating," AIEE Transactions, 1944.

"Heat Transfer to Boiling Freon," ASRE, 1945.

KAPL Reports on thermal cycling and noble gas solubility in sodium-potassium alloy, 1949.

"Irradiation Effects Cu_3Au ," Phys. Rev., 1952 and 1953.

"In-Pile Tests at MTR," WAPD Reports, 1954 and 1960.

"Analytical and Experimental Techniques in Nuclear Design," AIEE Transactions, 1960.

"Nuclear Power Today and Tomorrow," IEEE Spectrum, July 1964.

"Predicting Criticality and Nuclear Characteristics," Nucleonics, Vol. 23, No. 3, March 1965.

"Safety Analysis of Nuclear Power Plants," presented at the 12th Nuclear Science Symposium, IEEE, published February 1966.

Nuclear Power Plants in Maryland, Governor's Task Force on Nuclear Power Plants, December 1969, Co-author.

"University Activity and Fast Reactor Development," Fast Reactors and the University, proceedings of an ASEE-AEC short topical conference conducted at Rensselaer Polytechnic Institute, August 28-30, 1968.

"Curriculum Development," Education for Peaceful Uses of Nuclear Explosives, University of Arizona Press, 1970.

Numerous Classified Topical Reports on reactor physics, thermal and hydraulics and mechanical design of nuclear reactors, Bettis Plant.

Numerous NUS Reports for clients covering diverse fields of nuclear energy application.

"Creep of Copper under Deuteron Bombardment," Ph.D. Thesis, JAP, 1952.

Book Review, "Poisoned Power," AIF, Inc., INFO, June 1971.

"An Evaluation of the Concept of Storing Radioactive Wastes in Bedrock Below the Savannah River Plant Site." National Academy of Sciences, Report by the Committee on Radioactive Waste Management, National Research Council, Washington, D.C., 1972.

"Economic Analysis of the Nuclear Fuel Cycle," Nuclear Technology, Vol. 13, January 1972, W.F. Witzig and I.M. Girvin.

Publications (Cont.):

AIF Report on Access to Enrichment Technology, Committee Chairman, AIF Meeting on Nuclear Fuel Cycle, Dallas, Texas, January 1972.

"Nuclear Controversy in the U.S.A., Power Reactor Safety," International Workshop, Lucerne, Switzerland, May 1972, W.F. Witzig and W.H. D'Ardenne.

"Container Ships: Oil Fueled Versus Nuclear Powered," Nuclear Technology, Vol. 22, May 1974, Thomas B. Dade and W.F. Witzig.

"An Agro-Power-Waste Water Complex for Land Disposal of Waste Heat and Waste Water." Interdisciplinary Research Team, Institute for Land and Water Resources, The Pennsylvania State University, NSF Grant GI-35100, June 1974.

"TRIGA Core Management Model," Nuclear Technology, Vol. 23, September 1974, W.F. Naughton, M.J. Cenko, S.H. Levine, and W.F. Witzig.

"The Agro-Power-Waste Complex," European Nuclear Conference, Paris, France, April 21-25, 1975, M.A. Schultz and W.F. Witzig.

"Reactor Operator Screening Test Experiences," Coauthored by William O'Brien, Duquesne Light Company, J.L. Penkala, Consultant, W.F. Witzig, Consultant. Presented to EPRI workshop on Operator Selection Methods, June 1975, Palo Alto, California.

"American Nuclear Society Public Information Activities," Nuclear Technology, Vol. 27, September 1975, W.F. Witzig.

"Energy Parks and the Commonwealth of Pennsylvania-Issues and Recommendations." Volumes 1 and 2. (1975) Report to the Pennsylvania Government Energy Council. Center for the Study of Environmental Policy. W.F. Witzig (Contributor).

"Interim Storage of Solidified High-Level Radioactive Wastes." National Academy of Sciences, Panel on Engineered Storage, Committee on Radioactive Waste Management, National Research Council, Washington, 1975.

"Nuclear Science Education and Technology Transfer Programs at The Pennsylvania State University," ANS Transactions, June 1976, W.A. Jester, J.R. McKee, W.F. Witzig.

"Statement to the Mines and Energy Management Committee." Pennsylvania House of Representatives, Pittsburgh, Pennsylvania, W.F. Witzig, Pennsylvania State University, September 16, 1976.

"A Summary of U.S.A. Activities in Low Temperature Nuclear Heat," W.F. Witzig, and D.R. DeWalle. Presented at the Topical Meeting on Low Temperature Nuclear Heat on August 22, 1977 in Helsinki, Finland.

"Nuclear Wastes as a Heat Source," W.F. Witzig and M.E. Foster. Presented at the Topical Meeting on Low Temperature Nuclear Heat on August 24, 1977 in Helsinki, Finland.

Publications (Cont.):

? . "A Regression Model for the Prediction of Shutdown Margin for Boiling Water Reactors," ANS Transactions, ANS Winter Meeting, 1977 in San Francisco, Ross T. Thomas and W. F. Witzig.

"Teaching Fuel Management at Penn State - Successes and Failures," Transactions of the International Nuclear Society Meeting in Iran, April 1977, W. F. Witzig and S. H. Levine.

"Statement to the Mines and Energy Management Committee." Pennsylvania House of Representatives, Harrisburg, Pennsylvania, W. F. Witzig, Pennsylvania State University, October 21, 1977.

"A High-Speed In-Core Management System for PWR's," ANS Trans. Vol. 26, November 1977, M. Cenko, S. H. Levine, and W. F. Witzig.

"Ice Pond Cooling of a Power Plant," submitted to Nuclear Technology, J. Urbanski, G. C. Geisler, and W. F. Witzig.

"A Model for the Prediction of Shutdown Margin for Boiling Water Reactors," submitted to Nuclear Science and Engineering, March 1978, R. T. Thomas and W. F. Witzig.

Memberships:

Institute of Electrical and Electronics Engineers - Past Chairman of the Administrative Committee for Professional Group on Nuclear Science.

Argonne Universities Association - Past Chairman, EBR II Review Committee.

American Nuclear Society - Past Chairman, National Committee on Public Information; Past Chairman, Sub-committee on Associate Degree Curriculum; member of Executive Committee, Education Division.

Named a "Fellow of the American Nuclear Society," June 1974.

American Physical Society.

Washington Academy of Sciences - Joint Board of Science Education.

Sigma Xi, Sigma Pi Sigma, Eta Kappa Nu (Honorary Societies).

Nuclear Standards Board Past Member, USASI, N45 Committee, N18 Committee.

Registered Professional Engineer, Commonwealth of Pennsylvania #8633 and District of Columbia #4821E.

Sierra Club member.

University Club of Washington, D.C.; Centre Hills Country Club, State College, Pennsylvania.

Pennsylvania Society of Professional Engineers, Environmental Task Force member.

Pennsylvania Governor's Advisory Committee on "Regulation and Development" - Sub-committee Chairman on "Power"; Sub-committee member on Power Plant Siting.

Pennsylvania Governor's Advisory Committee on "Atomic Energy Development and Radiation Control."

National Academy of Science - Rad-Waste Committee member.

American Society of Engineering Education - Past Chairman, Nuclear Engineering Division.

Memberships (Cont.):

Atomic Industrial Forum - Pennsylvania State University Representative -
Chairman, Access to Enrichment Technology.

Who's Who in America - 1972-1973.

Personal:

Born March 26, 1921, Detroit, Michigan. Attended public schools in Buffalo, New York suburbs. Board Member of YMCA and author of "How to Recruit and Train YMCA leaders." Elder, Presbyterian Church. Married, four children. Height 6 ft. 2 in. Weight: 200 lbs.

RESUME

Warren F. Witzig

ADDENDUM

During World War II Dr. Witzig, as a Westinghouse Engineer, worked on the Manhattan District Project in the field of isotope separation. Work in similar areas was continued in the Research Laboratories and led to his selection as one of the early employees in the Bettis Laboratories for research and development on submarine nuclear propulsion. He worked on the submarine Sea Wolf and performed fundamental studies on radiation effects. He supervised radiation behavior of nuclear fuels in Hanford, Washington; Idaho; and Chalk River, Canada for submarine application. He supervised the first criticality approach of the submarine Nautilus and wrote the safety analysis for that ship's triumphant entry into New York City Harbor after its submerged cruise around the North Pole.

Dr. Witzig was responsible for the reactor design and operation known as SSW for the ships SKIPJACK and George Washington, of which more than 200 reactor cores have been built. He also assisted work on the first commercial plant, Shippingport.

He then moved to civilian application as one of the cofounders of the NUS corporation, the largest independent nuclear and energy consultant in the world. This activity grew from a two-man organization to over 200 professionals at the time he moved to academic endeavors.

At The Pennsylvania State University he has helped expand the graduate student body and initiated two new degree programs at the B.S. and Associate levels. His principal areas of study and research are nuclear engineering education, reactor design and operation, training programs, fuel management and economics, and nuclear safety and plant siting.

During his professional career Dr. Witzig has been a consultant on the following reactors and organizations:

Reactors

Three Mile Island, Pathfinder, Big Rock Point, San Onofre, Peach Bottom, Nuclear Submarines, Army plants (PM3A, PM1A, Camp Century, MHLA), Yankee Rowe, Hallam, Breazeale, Calvert Cliffs, NIS reprocessing, MTR, ETR, EBR II, Saxton, KWO (West Germany), Selni (Italy), KRB (West Germany), OKH (Sweden).

Organizations

National Academy of Sciences; Pennsylvania Department of Environmental Protection; Brown Boveri Krupp (West Germany); Electrowatt (Switzerland); West German, Taiwan, Japanese, Philippine, and Finnish governments; Air Products; NUS; SAI-JRD; Franklin Institute; Cincinnati Gas & Electric; Boston Edison; Duquesne Light; Chem Fix; Argonne Universities Association; and others.

Interrogatory 2

Provide summaries of the views, positions, or proposed testimony on

- | | | |
|-------------------|--------------------|--------------------|
| (a) Contention 1 | (j) Contention 3h | (s) Contention 16b |
| (b) Contention 2 | (k) Contention 5 | (t) Contention 16c |
| (c) Contention 3a | (l) Contention 6 | (u) Contention 16d |
| (d) Contention 3b | (m) Contention 7 | (v) Contention 16e |
| (e) Contention 3c | (n) Contention 8 | (w) Contention 16f |
| (f) Contention 3d | (o) Contention 9 | (x) Contention 16g |
| (g) Contention 3e | (p) Contention 11a | (y) Contention 16h |
| (h) Contention 3f | (q) Contention 11b | (z) Contention 16i |
| (i) Contention 3g | (r) Contention 16a | |

of all persons named in response to Interrogatory No. 1 that you intend to present during this proceeding.

RESPONSE:

The following responses summarize our views, positions, and/or proposed testimony on each of the contentions that Applicant currently intends to present during the hearing by the witnesses listed in the response to Interrogatory 1. The responses provided herein are preliminary in nature and are not intended to represent the final content of testimony that will be filed at a future date in accordance with the established hearing schedule.

- (a) Contention 1 - The testimony will show that the potential incremental airborne releases and doses to the public, if any, are insignificant. Therefore, the publishing of monitoring results need not be considered.
- (b) Contention 2 - The testimony will present a conservative analysis showing that any incremental releases are insignificant, both individually and combined. Information presented in the response to Contention 1 will provide the basis for the response to Contention 2.

- (c) Contention 3a - The testimony will describe the design features and the arrangement of components to the spent fuel pool cooling system. The performance of the cooling system with increased spent fuel storage will be presented, as well as its capability to handle the heat load from two core unloads. The testimony will conclude that the cooling system is capable of removing heat from spent fuel under all likely conditions.
- (d) Contention 3b - The testimony will describe the design of the inlet and outlet cooling system piping and show that blockage is extremely unlikely. If one were to assume that blockage did occur, just for the sake of discussion, Applicant will describe what would happen and refer to the next contention response for pool water heatup behavior.
- (e) Contention 3c - The testimony will review the design features of the cooling system and explain that the loss of both cooling trains is extremely unlikely. The loss of all cooling will nevertheless arbitrarily be assumed and the resulting effect on pool water temperature, and the associated assumptions in calculating the pool temperature response, will be presented. The testimony will explain that the incremental increase in spent fuel storage and the resulting effect on heat addition to pool water will not cause boiling because the cooling system has sufficient heat removal capability to handle it.
- (f) Contention 3d - The results of a loss of pool cooling, which would include loss of service water flow or pumps, will have been discussed in the response to Contention 3c. The loss of pool water is not considered possible and the various methods of adding water to the pool will be described. The worker activity associated with the spent fuel pool and storage of fuel before and after the rerack will be described and result in the conclusion that there is no significant increase in worker activity.

- (g) Contention 3e - The testimony will show that repairs to the liner can be made while the fuel is stored in the pool. A typical liner repair process will be described to show that the pool does not have to be dewatered. Worker activity will have been discussed in the response to Contention 3d and the design considerations of the pool to withstand the increased burden will be discussed in the response to Contention 3f.
- (h) Contention 3f - The Applicant's witnesses will describe the pool structural analysis that has been performed, which includes seismic forces, to evaluate the effects of the increased weight due to increased spent fuel storage. The analysis will show that the pool structure will withstand the forces from the postulated events.
- (i) Contention 3g - The testimony will describe the planned method for rack removal and shipping.
- (j) Contention 3h - The Applicant's witness will describe the neutron absorber material and the results of testing that has been performed to qualify the material. The material will be shown to be acceptable for the planned spent fuel storage.
- (k) Contention 5 - The design considerations of the pool and associated plant features will be described. It will be shown that the pool is designed to not fail under all credible events and, therefore, forced removal will not be necessary.
- (l) Contention 6 - The testimony will describe the pool structure, liner and leak detection system. If the liner were to leak, the leak detection system would indicate that leakage was occurring and the liner would be repaired by the

methods that will be described in the response to Contention 3e. The testimony will also describe the direction of ground water flow and the present sampling program.

- (m) Contention 7 - The testimony will describe the types of solid low-level radioactive wastes associated with the spent fuel pool and the expected increases in these wastes due to the increased spent fuel storage. The plan for disposal of these wastes will be described, including a statement that no plans for on-site land burial exist.
- (n) Contention 8 - The testimony will review Applicant's history with NFS, identify the number of assemblies in storage, explain the possible need for return of assemblies and the timing for their return. The storage environment at NFS will be described as well as the basic structural integrity inspection at the time of shipment from NFS. Successful shipping experience of the nuclear industry will also be referenced. The testimony will show that the assemblies will be received at Point Beach intact and safe for storage.
- (o) Contention 9 - The testimony will show that the emergency plan in its present form encompasses postulated emergencies far more severe than could arise from the storage of spent fuel, both before and after reracking.
- (p) Contention 11a - The testimony will show that the incremental effect of the increased storage of spent fuel on the health of the occupational personnel at Point Beach is essentially zero.
- (q) Contention 11b - The testimony will show that the incremental effect of the increased storage of spent fuel on the health of the general public who live in the vicinity of the plant is essentially zero.

- (r) Contention 16a
- (s) Contention 16b
- (t) Contention 16c
- (w) Contention 16f - The testimony will discuss the long term integrity of fuel and pool components. The experience of fuel that has been stored for long periods of time will be referenced and the corrosion rate of these materials will be presented. The testimony will show that the fuel will remain intact and can be safely stored and handled while at Point Beach.

- (u) Contention 16d - The testimony will describe the spent fuel pool monitoring and will explain why there is no need for additional monitoring of individual fuel assemblies.

- (v) Contention 16e - The testimony will show that there is no need for encapsulation of fuel assemblies.

- (x) Contention 16g - The testimony will show that water pool storage has been demonstrated to be a safe and effective method of storing spent fuel. Alternatives to the proposed method were surveyed for their feasibility, and pool storage at Point Beach was found to be the best and least expensive means for storage.

- (y) Contention 16h - The testimony will show that there will be no problems in handling spent fuel.

- (z) Contention 16i - The testimony will explain that the discussion on fuel assembly corrosion properties in the response to Contentions 16a, 16b, 16c, and 16f is applicable to fuel stored at NFS as well as at Point Beach. The testimony will show that no detrimental corrosive effect will occur as a result of chemical differences between the NFS and Point Beach storage pools.

Interrogatory 3

Identify by author, title, date of publication and publisher, all books, documents, and papers that you intend to employ or rely upon in presenting your direct case on

(a) Contention 1	(j) Contention 3h	(s) Contention 16b
(b) Contention 2	(k) Contention 5	(t) Contention 16c
(c) Contention 3a	(l) Contention 6	(u) Contention 16d
(d) Contention 3b	(m) Contention 7	(v) Contention 16e
(e) Contention 3c	(n) Contention 8	(w) Contention 16f
(f) Contention 3d	(o) Contention 9	(x) Contention 16g
(g) Contention 3e	(p) Contention 11a	(y) Contention 16h
(h) Contention 3f	(q) Contention 11b	(z) Contention 16i
(i) Contention 3g	(r) Contention 16a	

and provide copies of, or make available for Staff inspection and copying, these items.

RESPONSE:

Following is a tentative list of books, documents, papers and submittals which may be used in presenting Applicant's direct case on the above listed contentions.

1. Wisconsin Electric Power Company's application for Spent Fuel Storage Expansion dated March 21, 1978, and the references cited therein.
2. Modification to the application dated June 14, 1978, and the references cited therein.
3. Modification to the application dated September 29, 1978, and the references cited therein.
4. Additional information to the application dated July 19, 1978.
5. Additional information to the application dated October 10, 1978.
6. "Applicant's Answers to Interrogatories Propounded by Intervenor on September 27, 1978", dated October 27, 1978.
7. "Applicant's Answers to Interrogatories Propounded by The State of Wisconsin on October 2, 1978", dated November 1, 1978.
8. Band Industrial Services, Inc., Report No. 1047-1, "Boraflex I Suitability Report", Revision 1, dated May 5, 1978.

9. A. B. Johnson, "Behavior of Spent Nuclear Fuel in Water Pool Storage", Battelle Northwest Laboratory 2256, September 1977.
10. DOE, "Draft Environmental Impact Statement, Storage of U. S. Spent Power Reactor Fuel", DOE/EIS-0015-D, August 1978.
11. NRC, "Draft Generic Environmental Impact Statement, Handling and Storage of Spent Fuel From Light Water Nuclear Power Reactors", NUREG-0404, March 1978.
12. ERDA, "Alternatives for Managing Wastes from Reactors and Post Fission Operations in the LWR Fuel Cycle", ERDA 76-43, May 1976.

The above references represent a preliminary list which may be modified or expanded as testimony preparation proceeds. Applicant assumes that copies of the above listed documents are in the possession of the Staff.

Interrogatory 4

Identify by author, title, date of publication and publisher, all books, documents or papers that you intend to employ or rely upon in conducting your cross-examination of witnesses for other parties who may testify in connection with

(a) Contention 1	(j) Contention 3h	(s) Contention 16b
(b) Contention 2	(k) Contention 5	(t) Contention 16c
(c) Contention 3a	(l) Contention 6	(u) Contention 16d
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(g) Contention 3e	(p) Contention 11a	(y) Contention 16h
(h) Contention 3f	(q) Contention 11b	(z) Contention 16i
(i) Contention 3g	(r) Contention 16a	

RESPONSE:

The books, documents, papers and submittals identified in the response to Interrogatory 3 may be employed in conducting Applicant's cross-examination of witnesses. The references cited therein represent a preliminary list which may be modified or expended as preparation for the hearing proceeds.

The responses to interrogatories contained herein were prepared by Roger A. Newton.

Roger A. Newton

Roger A. Newton
Senior Nuclear Engineer

Subscribed and sworn to before me
this 8th day of November 1978.

Barthelme J. Fleischman
Notary Public, State of Wisconsin

My Commission expires July 6, 1980.

My Commission expires July 6, 1980.

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Ms. Jame Schaefer
3741 Koehler Drive
Sheboygan, Wisconsin 53081