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May 16, 1984

Peter B. Bloch, Esquire
Atomic Safety and
Licensing Board
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. Walter H. Jordan
881 West Outer Drive
Oak Ridge, Tennessee 37830

Dr. Kenneth A. McCollom, Dean
Division of Engineering,
Architecture & Technology
Oklahoma State University
Stillwater, Oklahoma 74078

Subj: Texas Utilities Electric Company, et al.
(Comanche Peak Steam Electric Station,
Units 1 and 2) · Docket Nos. 50-445 and 50-446 OL

Gentlemen:

Applicants transmit herewith motions for summary disposition regarding three matters relating to outstanding pipe support design allegations. These motions address items 7 and 16 of Applicants' February 3, 1984, Plan to respond to the Board's December 28, 1983, Memorandum and Order (Quality Assurance for Design). In addition, Applicants also submit herewith a motion for summary disposition regarding an issue which, although not included in Applicants' Plan, we believe should be addressed by the Board. These materials are the first in a series of motions for summary disposition and testimony we will be filing pursuant to Applicants' Plan.

The motions for summary disposition transmitted herewith are (1) "Applicants' Motion for Summary Disposition Regarding Alleged Errors Made In Determining Damping Factors For OBE and SSE Loading Conditions," supported by the affidavit of Dr. Robert C. Iotti, Chief Engineer of Applied Physics for Ebasco Services, Inc., (2) "Applicants' Motion for Summary Disposition of Certain CASE Allegations Regarding AWS v. ASME Code Provisions Related to

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Design Issues," supported by the affidavit of John C. Finneran, Jr., the Project Pipe Support Engineer for Comanche Peak Steam Electric Station, Dr. Iotti and John D. Stevenson, President and Managing Partner of Stevenson and Associates, and (3) "Applicants' Motion for Summary Disposition Regarding Consideration of Friction Forces in the Design of Pipe Supports with Small Thermal Movements," supported by the affidavit of Mr. Finneran. A copy of the educational and professional qualifications of Dr. Iotti is attached hereto. The qualifications of Messrs. Finneran and Stevenson were previously submitted as Applicants' Exhibit 142B and with Applicants' April 5, 1984, motion for summary disposition regarding other AWS v. ASME allegations, respectively.

At the Board's request, Applicants will file shortly a proposed schedule for completion of this proceeding, including procedures for effectively litigating the remaining issues. We intend to include therein a proposal that oral responses to and rulings on motions for summary disposition be permitted. Accordingly, we propose that the parties' responses to Applicants' instant motions, and the Board's rulings thereon, be provided orally at the hearing session now scheduled to commence May 29, 1984. To the extent the Board determines that genuine issues of material fact exist, the parties may commence to litigate those issues. Material facts not found to be at issue should not be litigated. Applicants will adopt as testimony those portions of their supporting affidavits for which summary disposition is not granted.

In addition, Applicants are providing to CASE and the NRC Staff relevant backup documentation regarding these motions and supporting affidavits. These materials will assist in the timely preparation of their responses to Applicants' motions.

Sincerely,

William A. Horin

William A. Horin
Counsel for Applicants

cc: Service List
Overnight/Next Day Delivery, Board and Parties
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Robert C. Iotti

Chief Engineer Applied Physics

EBASCO SERVICES INCORPORATED

EXPERIENCE SUMMARY

Over 12 years experience in engineering analysis and design of nuclear power plants and other research for power production facilities. Presently responsible for:

planning and directing all engineering efforts required for radiation protection (radiation shielding and monitoring): thermo-hydraulic analysis and design, non-linear structural analysis of nuclear installation· development of new methods for analysis, design and testing· development of systems to utilize alternate energy sources.

Also responsible for managing interdisciplinary efforts of several technical departments involved in backfit studies at nuclear installations.

REPRESENTATIVE EXPERIENCE

Planned and directed radiation shielding and radiation monitoring system design of 11 nuclear power plants. Performed shielding analysis and design for three of those power plants. Planned and directed performance of studies of transient effects in containments and enclosures resulting from high energy pipe breaks, severe wind loadings, or explosions. Performed many of those analyses.

Planned and directed the development and implementation of improved calculational methods to describe transient fluid flow phenomena. Performed and directed heat transfer analyses and supervised designs of novel heat removal systems.

Helped develop and subsequently directed work in analysis and design of components, piping and structures exhibiting non-linear behavior. Structures include steel, concrete and composite structures. Developed methodology for design of piping and components against hydrogen detonations. Extended this methodology to the analysis of open air deflagrations and detonations of flammable vapor clouds and solid explosives and the coupling of such explosions to air, ground, and structures. Directed analysis of ability of structures to withstand imposed dynamics loads (non-linear analysis).

Developed and directed work in establishing a methodology for evaluation of piping vibrations during steady state and transient loadings conditions and supervised its successful application in two nuclear power plants. Performed vibration testing and analysis and suggested modifications of rotary components in a nuclear power plant. Developed a methodology for simulation of transients in power plants and a computer program to describe the boiler implosion phenomenon. Managed the effort of a special group of engineers dedicated to an in-house research and development program on solar energy use which ranged from the basic physics of the insulation, to the design of thermal, thermo-electric and photovoltaic systems. Responsible for technical review and direction of radiation transport activation and damage studies, thermal hydraulic studies, and fluid heating and cooling design of the Tokamak Fusion Test Reactor. Directed work performed by consultants for a group of utilities owning CE reactors and another group owning B&W reactors to assess probability of pipe ruptures. In this capacity, acted as consultant to SAI in the required probabilistic and fracture mechanics studies.

Directed and performed work for the complete analyses of the reactor vessel supports of a PWR plant under LOCA conditions resulting in asymmetric pressure loads inside the reactor vessel and the reactor cavity. Directed design modifications of main steam lines isolation and check valves to enable them to withstand rupture transients. Engineered and designed novel neutron streaming shields for application in existing PWR plants. Consulted for a group of Westinghouse reactor owners in a successful effort to resolve a steam generator tube vibration problem.

Performed studies on turbine, detonation and tornado driven missiles; developed models predicting blast or wind loadings from detonations or tornadoes and/or hurricanes at critical structures. Performed studies on fin temperature distribution for a molten salt reactor plant heat exchangers.

EMPLOYMENT HISTORY

1971-Present	Ebasco Services Incorporated
1970-1971	Kansas State University, Manhattan, Kansas Assistant Professor, Department of Nuclear Engineering Teaching Mathematical and Nuclear Physics, Basic Nuclear Engineering, Applied Mathematics, Radiation Shielding
1967-1970	Instructor, Department of Nuclear Engineering Teaching Nuclear Physics, Radiation Effects on Materials, Heat Transfer, Basic Nuclear Engineering, research in Theoretical Nuclear Physics (neutron-proton cross-sections) and radiation shielding (roof scattered radiation from infinite fallout fields) Assistant Director Professional Advisory Service Center for Fallout Shelter Development in Kansas
1965	Coordinator and Participant Kansas State University-OCD International Summer Institute of Fundamental Radiation Shielding Problems as Applied to Nuclear Defense Planning

EDUCATION

Kansas State University -- Ph. D. in Nuclear Engineering (Physics and Applied Mathematics) 1970

M.S. in Nuclear Engineering (Applied Mechanics) 1967

B.S. in Nuclear Engineering (Mechanical Engineering) 1964

MEMBERSHIPS & PROFESSIONAL LICENSES

American Nuclear Society Subcommittee ANS 55.8 on Protection Against the Effects of Pipe Whip

American Society of Mechanical Engineers -- Pressure Vessel and Piping Nuclear Engineering Subcommittee

Member -- Atomic Industrial Forum Ad-Hoc Committee on Pipe Whip

Professional Engineer, New York State, No. 053262

Publications

A. Papers -- Iotti, R.C., W.J. Krotiuk, and D.R. deBoisblanc, "Hazards to Nuclear Plants From, On (or Near) Site Gaseous Explosions," Proceedings of Salt Lake City, ANS Meeting on Light Water Reactor Safety, CONF-730304 USAEC, Salt Lake City, Utah, 1973

Iotti, R.C., et al., "Scattering of Fallout Radiation from Ceilings of Protective Structures," Final Report under Department of Defense Contract No. OCD-OS-63-74, Kansas Engineering Experiment Station, Special Report No. 72, July 1966

Iotti, R.C., et al., "Design of Structures for Protection from Window-Collimated, Ceilings -- Scattered Fallout Radiation," Presented at the Denver Meeting of the American Nuclear Society, Trans-American Nuclear Society, 9, 1, pp. 150-151, 1966

Iotti, R.C., et al., "Solution of the Ceiling Shine Problem in Structure Shielding Design and Analysis," Presented at the Pittsburgh Meeting of the American Nuclear Society, Trans-American Nuclear Society, 9, 2, pp. 346-347, 1966

Iotti, R.C., and H.J. Donnert, "Interaction of Neutrons with Helium 3," Acta Physics Austriaca, 44, pp. 7-26, 1976

Iotti, R.C., and H.J. Donnert, "Finite Differences Method of Solution for the Two-Channel Reaction Problem," Acta Physica Austriaca, 44, pp. 27-32, 1976

Iotti, R.C., "Design Basis Velocities of Tornado-Generated Missiles," Trans-American Nuclear Society, 21, pp. 202-203, 1975

Publications (continued)

A. Papers -- Iotti, R.C., "Impact of Pipe Break on the A/E," Presented in a Panel Discussion at the Second National Conference on Piping and Pressure Vessels, San Francisco, California, June 1975

Heifetz, J., and R.C. Iotti, "PLAST-Advanced Code for Dynamic Pipe Whip Analysis," Trans-American Nuclear Society, 21, pp. 202-203, 1975

Yang, T.L., and R.C. Iotti, "Reactor Cavity Fast Neutron Streaming Calculation and Shielding Design by Monte Carlo Techniques," Trans-American Nuclear Society, 22, pp. 806-807, 1975

Iotti, R.C., et al., "Analysis and Upgrading of Swing-Type Steam Valves," Trans-American Nuclear Society, 22, pp. 561-562, 1975

Iotti, R.C., R. Hensler, and R. Scully, "Thermal Analysis of Reactor Support Systems," Trans-American Nuclear Society, 23, p. 415, 1976

Iotti, R.C., et al., "Determination of N^{16} Levels for an Operating Boiling Water Reactor," Trans-American Nuclear Society, 23, pp. 598-599, 1976

Iotti, R.C., "Establishing Loadings for Containment Design, Including Choice of Particular Loads, Their Magnitude, Combination and Time History, and Economics of Containments," Winter Annual Meeting of the Society of Mechanical Engineers, New York, 1976

Iotti, R.C., "Velocities of Tornado Generated Missiles," Proceedings of the Symposium on Tornadoes, Assessment of Knowledge and Implications for Man, pp. 585-599, June 1976

Iotti, R.C., "Neutron Streaming -- The Problem and Engineered Solution," Best Paper Award, ANS M&C and RP&S Divisions-ORNL/RSIC-48, 1978

Iotti, R.C., "Regulatory Guides and Their Impact on Engineering Analyses," ASME/PVP Conference, San Francisco, California, August 1980

Iotti, R.C., "The TMI Accident -- The Impact on Design," ASME Winter Meeting, Chicago, Illinois, November 1980

Publications (continued)

A. Papers -- Iotti, R.C., et al., "Dynamic Design of Piping Systems," SMIRT-6, M10/4, Paris, France, August 1981

Iotti, R.C., and M. Badrian, "Non-Linear Analysis of Biological Shield Wall Under LOCA Loads in a PWR Plant," SMIRT-6, 5/3, August 1981

B. Reports -- Iotti, R.C., et al., "Potential Hazards to the Allens Creek Nuclear Station for Hypothetical Breaks in Proximate Natural and Liquified Petroleum Gas Lines," Ebasco Report, APTR-1, 1974

Iotti, R.C., et al., "Steam Hammer Analysis," Ebasco Report APTR-4, 1974

Iotti, R.C., et al., "St. Lucie 1 Dynamic Fluid and Stress Analysis of Main Steam Isolation/Check Valves," Ebasco Report, APTR-7

Iotti, R.C., et al., "Measurements of Effluent Activity at Steam Jet Air Ejector of Millstone Unit 1," Ebasco Report, APTR-9

Iotti, R.C., et al., "Velocities of Tornado Generated Missiles," Ebasco Topical Report, ETR-1003, 1975

Iotti, R.C., et al., "Containment Design," ASME Pressure Vessel and Piping Design Technology -- A Decade of Progress, 1982

Iotti, R.C., "Advances in Containment Design and Analysis ASME Special Publication, 1982

Iotti, R.C., "Vibration Analysis and Design" ASME Special Publication, 1981