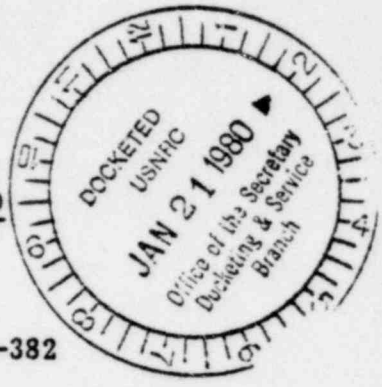
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION



BEFORE THE ATOMIC SAFETY & LICENSING BOARD

In the Matter of

LOUISIANA POWER & LIGHT COMPANY Docket No. 50-382

(Waterford Steam Electric Station
Unit 3)

JOINT INTERVENORS ANSWERS TO NRC STAFF INTERROGATORIES, AND RESPONSE TO REQUEST FOR DOCUMENTS

1-1a. The individuals upon whose work rely to substantiate their case for Contention 1 are as follows:

Dr. Joel Selbin, Dr. Lee Schipper, Dr., A. J. Lichtenberg, Dr. John Appleton, E.P. Gyftopolous, Mr. Thomas F. Widmer, Mr. Roger W. Sant, Mr. James Benson, Dr., Edward Kahn, Marc Ross, Robert Williams.

1-1b. Addresses and educational and professional qualifications of the individuals listed in 1a. are being compiled and will be furnished subsequently.

1-1c. All individuals listed above are potential witnesses. However Joint Intervenors are waiting for confirmation, and will provide identities of all confirmed witnesses during the course of these proceedings. Further, additional witnesses will be timely disclosed to all parties herein.

1-2. Summary of the views of the potential witnesses can be obtained from purusal of the following documents:

HOUSE REPORT 95-1090, NUCLEAR POWER COSTS, APRIL 26,

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1978. This includes the hearings and all references included therein. E. Gyftopolous et al. 1974. Potential Fuel Effectiveness in Industry, Cambridge, Mass.: Ballinger R. Gatts, 1974. Industrial Energy Conservation. Paper No. 74-WA/Energ-8 New York: American Society of Mechanical Engineers.

Federal Energy Administration, 1974, Energy Conservation in the Manufacturing Section, 1954-1990. Project Independence. Washington, D.C.: GPO. M./Ross R. Williams. Assessing the Potential for Fuel Conservation, Rep. No. 75-02. Institute for Public Policy Alternatives. SUNY. Albany, N.Y.

C. Berg, February, 1974. Technical Basis for Energy Conservation, 76(4)14. Also C. Berg, 1973, Energy Conservation through Effective Utilization. Washington, D.C., Federal Power Commission.

Thermo-Electron, A study of Inplant Electric Power Generation in the Chemical, Petroleum Refining and Paper and Pulp Industries. Final Report prepared for the Federal Energy Adminstration, Contract CO-04-50224-00.

1-3. Specific bases and references upon which the potential witnesses identified in Interrogatory 1-1. rely to substantiate their views is extremely complex, and can be more fully appreciated from a review of the literature however as a general proposition the work of these witnesses identified hereinabove and hereafter can be taken as a qualification of the Contentions of Joint Petitioners.

1-4. Joint Intervenors have not calculated a 50% "diminution of demand for electricity". A fair reading of Contention 1a. states that the diminution is "on the order of 50% of past demands for electric power."

"Diminution" as utilized in Contention 1a. is used in the same context as "deviation" See e.g. Applicant's ER Table 1.1-11 Footnote 2; by comparision of the Applicant's questions and answers in the Environmental Report, dated June 11, 1971 with the subsequent actual reported peak loads.

Further, it should be noted that nationwide the demand for electric power has been substantially diminished, at least in part because of energy conservation efforts of individuals and industry. See e.g. House Report No. 95-1090 "Nuclear Power Costs" 23rd Report by the Committee on Government Operations dated April 26, 1978 p. 33-34.

1-5. The "proper figures" for projected demand should ideally be the actual figures. Any excessive deviation is an indication of poor methodology in the calculation of projected demand which results in overbuilding and/or expensive cancellation of projects. An example of a methodology for obtaining proper figures for projected demand for electricity is the computer program developed by the Rand Corporation for the State of California which was developed in 1973 by Rand Staff Members.

Joint Applicant's are at the present time attempting to obtain an application of this program to existing Louisiana conditions.

1-6. The economics of industrial co-generation and result in savings of industrial electricity consumption generated thereby are contained in the paper "A national policy for industrial energy conservation" dated April 25, 1977 and contained in the Committee on Government Operations hearings on Nuclear Power Costs at pp. 1329-1351.

1-7. Joint Intervenors submit that there is no one "proper reserve electrical production capacity"; rather it appears that the amount of reserve generating capacity is a function of plants; and it has been reported to the House Government Committee on Operations that smaller plants averaging 375 megowatts production capacity are a viable substitute for larger (average 1100 megawatt) nuclear facilities. See, e.g. Nuclear Power Costs, op. cit. p. 29 and Hearing, p. 1182 and pp. 963-973.

1-8. Documentary and other material intended for use during this proceeding has been identified hereinabove, to the extent that it will be offered, or can be anticipated as a basis of cross-examination of witnesses. Additional materials will be appropriately referenced by periodic update to these Interrogatory Answers.

2-1a. Dr. Joel Selbin, Dr. Marvin Resnikoff, Dr. Chauncey Kepford, Dr. John Winchester.

b. The curriculum vitae and addresses of the individuals listed above are in preparation and will be provided, along with vitae of any additional witnesses identified.

c. All individuals listed above are potential witnesses. However Joint Intervenors are waiting for confirmation, and will provide identities of all confirmed witnesses during the course of these proceedings. Further, additional witnesses will be timely disclosed to all parties herein.

The views and positions of the individuals identified in 2-1a. are contained in the following:

a. International Uranium Cartel (I and II) hearings before the Subcommittee on Oversight and Investigations of the Committee on

Interstate and Foreign Commerce (95-39) May, June and August, 1977. Nuclear Power Costs hearings (pp. 231-304).

b. OPERATING UNITS STATUS REPORT NUREG-0020 (the Grey book)

c. Final Safety Analysis Reports and Environmental Reports on all Combustion Engineering Nuclear Steam Supply Systems with operating licenses. H.R. 95-1090, Nuclear Power Costs, p. 22 f. Decommissioning Costs.

2-2. The International Uranium Cartel hearings before the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce House Report No. 95-39.

b. Nuclear Power Costs Hearings House Report No. 95-1090, and supporting hearing materials.

c. Operating Units Status Report New Reg. 00-20 (Big Grey Book).

2-3. The Contention that "uranium fuels ...can be expected to rise in costs to at least three times the present cost," is based on the market economics and projections for usage. As set forth, among other places, in Nuclear Power Costs, pp. 32-33. As set forth, in the Government Operations Committee Report, "lower fuel costs" were a key argument used by government to push utilities to build nuclear plants. But the price of uranium has risen from $6-8 per pound in 1973 to more than to $40 per pound for new orders in 1978. Id., p. 32. Further, as noted by the Government Committee's acknowledgement of an Atomic Industrial Forum Statement, "The light water reactors coming on line through the remainder of this century will likely consume all estimated econ U.S. uranium

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supplies, proven and potential, during their lifetime." Id., p. 33.

Similar statistics are noted in the following Associated Press dispatch "Shortage of Uranium Fuel May Soon Be Facing U.S." Times-Picayune, December 27, 1979.

2-4a. Industry generated data includes the following studies:

1) W. J. Manion and T. S. LaGuardia, An Engineering Evaluation of Nuclear Power Reactor Decommissioning Alternatives. AIF/NESP-009. Washington, D.C. Atomic Industrial Forum, November, 1976.

The report that explains how the industry has failed to properly cost account is this:

2) Report Number 2882, Trace Elements in Reactor Steel: Implications for Decommissioning. John J. Stephens, Jr. and Robert O. Pohl. Laboratory of Atomic and Solid State Physics and Materials Science Center, Cornell University. Ithaca, New York 14853. A copy of this report is found in the hearings on Nuclear Power Costs (235-255).

The failure of applicants reliance on industry generated data and the more realistic costs are set forth in Nuclear Power Costs, op. cit., Section 4 Decommissioning, pp. 22-26, and the underlying hearing data upon which the report is based.

2.5 - The proper safeguards necessary for preventing radiation releases during decommissioning are discussed at length in the Government Operations Subcommittee on Nuclear Power Costs, See testimony of Dr. Marvin Resnikoff at pp. 231-304.

2.6 - Please refer to Answer 2-5.

2-7 - A discussion of appropriate for decommissioning is contained in a section "Decommissioning of the Committee on Government Operations Report, 'Nuclear Power Costs' pp. 22-26.

2-8 - Documentary and other material intended for use in this proceeding in support of Contention 2 has been identified herein; and will be updated periodically.

8/9-1. a & b. Dr. Carl J. Johnson, M.D., Director of Health, Jefferson County Health Department, 260 S. Kipling, Lakewood, Colorado 80226,

Dr. Robert H. Harris, Ph.D., President's Council on Environmental Quality, Washington, D.C.

Dr. Rosalie Bertell, Ph.D., G:N.S.H., Director of Research, Ministry of Concern for Public Health, 151 East Street, Buffalo, New York 14207,

Mark H. Barnett, M.P.H., Asst. Director, Div. Training & Medical Applications, Bureau of Radiological Health, Food & Drug Administration, Dept. Health, Education and Welfare, Rockville, MD.

A. C. Upton, Dept. Pathology, State University of New York, Stoney Brook, New York 11794,

Dr. Irwin Bross, Ph.D., Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263,

Richard Wilson, M.A., D. Phil., Dept. of Physics, Energy and Environmental Policy Cnt., Harvard University, Cambridge, Mass., 02138,

John W. Gofman, M.D., Ph.D., 1045 Clayton Street, San Francisco, California,

Dr. Ernest J. Sternglass, Ph.D., Director of Radiation Physics,

University of Pittsburgh, Pittsburgh, Pennsylvania.

8/9b. Educational and professional qualifications of individuals listed are being processed and will be provided hereafter.

8/9c. Joint Intervenors have not yet obtained firm committments for any particular witnesses; however identities of all witnesses will be disclosed timely to the NRC and Applicant.

8/9-2. The testimony expected from these witnesses (and others who may be named later) will support Contentions 8/9. Summaries of their views are contained in their publications, cited in Answer to Interrogatory 8 & 9-7. Below.

8/9-3. Effect: The result of any action; a consequence.

8/9-4. 8/9-4.& 8/9-11. The following references (available at any medical school library) offer answers to both interrogatory 8/9-4. and to 8/9-11:

ORIGINS OF HUMAN CANCER, Book a, "INCIDENCE OF CANCER IN HUMANS"; Volume 4, chapter entitled "RADIATION EFFECTS" (by A.C. Upton) Cold Spring, Harbor Conferences on Cell Proliferation, 1977.

Cold Spring Harbor Laboratory Publicatons.

"RISKS CAUSED BY LOW LEVELS OF POLLUTION", YALE JOURNAL OF BIOLOGY AND MEDICINE, Vol. 51, 1978, p. 37-51 (by Richard Wilson).

"THE BIOLOGICAL EFFECTS OF IONIZING RADIATION",

CONNECTICUT MEDICINE, Vol. 43, No. 2, Feb., 1979, p. 75-80 (by Mark H. Barnett).

ADVANCES IN MODERN TOXICOLOGY, Vol. 3, ENVIRONMENTAL CANCER"; Chapter 2. Ed. by H. F. Kraybill, Nat'l Cancer Institute and by Myron A. Mehlman, Nat'l Institutes of Health, 1977. Hemisphere Publishing Corporation.

8/9-5. For present purposes, and until applicant's "ENVIRONMENTAL REPORT" is submitted in final form, Joint Intervenors refer primarily to effects on Humans.

NOTE: However, that through the food chain, effects upon humans are integrally related to effects upon animals any/or plants.

8/9-6 & 8/9-9. The following references offer Answers to Interrogatory 8/9-6. and to Interrogatory 8/9-9.

All Bibliographical references included as part of each primary reference cited here are to be considered as direct references where applicable.

a) "LUNG CANCER MORTALITY AND RESIDENTIAL PROXIMITY TO INDUSTRY," Dr. Marise s. Gottlieb, Charles L. Shear, and D. B. Seale. Tulane Unversity School of Medicine and School of Public Health and Tropical Medicine, New Orleans, Louisiana 70112.

b) ENVIRONMENTAL CANCER, CAUSES, VICTIMS, SOLUTIONS. Summary of Proceedings of a Conference held March 21 & 22, 1977. Sponsored by the Urban Environment Conference, Inc., 1302 18th St., N.W., Washington, D.C. 20036.

c) "IONIZING IRRADIATION AND INDUCTION OF CLINICALLY

SIGNIFICANT DISEASE IN THE HUMAN THYROID GLAND," AMERICAN JOURNAL OF MEDICINE, Vol. 63, Dec., 1977, (By Dr. Harry R. Maxon)

d) NUCLEAR POWER AND THE PUBLIC, Chapter entitled "Evaluation of Health Hazards to the Public associated with Nuclear Power Plant Operations", (By S. Newell Stannord), 1971, University of Minnesota Press, 2nd Printing.

e) "RADIATION - INDUCED CHROMOSOME ABERRATIONS IN NUCLEAR DOCKYARD WORKERS", NATURE, Vol. 277, Feb. 15, 1979 (By H. J. Evans, K. E. Buckton, G. E. Hamilton, and A. Carothers)

f) "LUNG CANCER IN SHIPBUILDING AND RELATED INDUSTRIES IN LA.", Southern Medical Journal, Vol. 72, No. 9, Sept. 1979 (By Dr. Marise S. Gottlief and Robin B. Stedman).

To the extent that mutagenic and/or carcinogenic agents are known to cause genetic breakage in a random manner, the organs effected by "cumulative and/or synogegistic effects" upon human genetic material must be random also. Thus, all organs are at risk.

8/9-7. Lecture given by Dr. Carl J. Johnson at the annual convention of The American Public Health Association in New York City, November 2-8, 1979. (Available in Cassette Recording from APHA)

a) "DRINKING WATER AND CANCER MORTALITY IN LOUISIANA", SCIENCE, 2 July, 1976, by Dr. Robert H. Harris.
(periodical) "A DOSAGE RESPONSE CURVE FOR THE ONE RAD RANGE: ADULT RISKS FROM DIAGNOSTIC RADIATION", AMERICAN JOURNAL OF PUBLIC HEALTH, Vol., 66, No. 2, Feb., 1979, by Dr. Irwin Bross.

b) ENVIRONMENT and CANCER, A collection of papers presented at the 24th Annual Synposium on Fundemental Cancer Research, 1971.

Published by The Williams & Wilkins Company, Baltimore, Md., 1972. (See paper entitled "Radiation as an Environmental Hazard" by Dr. J. W. Gofman.

c) Testimony given October 2, 1978 in Nashville U.S. District Court RE: Case #78-3371, NA-CV, "Jeannine Honicker versus Joseph M. Hendrie, et al" testimony of Dr. Ernest J. Sternglass.

Specific references of M. H. Barnett, of A. C. Upton, and of Richard Wilson are cited in the combined answer to interrogatories 8/9-4. and 8/9-11.

NOTE: All references cited in the above materials are to be considered as part of the context of Joint Intervenors' Answer to Interrogatory 8/9-7.

8/9-8 a) State of Louisiana Death Certificates.

(b) "INDUSTRIAL SITE MAP, Recent U-2 photograph of the Lower Mississippi River" published by Area and Industrial Development Section of L P & L.

8/9-9. See Answers to 8/9-6, supra.

8/9-10.8/9-10 a. Hologenated Hydrocarbons, Asbestos, Polychlorinated Biphenyls, Oil & Grease, Vinyl Chlorides, and others.

b. SUSPECTED CARCINOGENS, 2nd Edition. A SUBFILE OF THE REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, published by the U.S. Dept. of Health, Education and Welfare, Cincinnati, Ohio 45226, December, 1976.

c. "DRINKING WATER AND CANCER MORTALITY IN LOUISIANA",

SCIENCE, 2 July, 1976, pp. 55-57.

8/9-11. See Answer to 8/9-4, supra.

8/9-12. a) All residents of Killona, Louisiana.

b) All individuals who reside within 3 miles of the industrial sites listed in Answer to Interrogatory 8/9-13;

c) All individuals who drink water taken from the Mississippi River Downstream from industrial sites listed in Answer to 8/9-13.

8/9-13. a) Hooker Chemicals & Plastics Corporation, Taft, La.

b) Union Carbide Corporation, WITCO Chemical Corporation, Taft, La.

c) Shell Chemical Company, Shell Oil Company, Norco, La. (5 miles N.E of Taft, La.)

d) E. I. Dupont & Co., LaPlace, Louisiana (5 miles North of Taft, La.)

e) Monsanto Company, Luling, La. (10 miles S.E. of Taft, La.)

Besides the 7 sites within 5 miles of Taft, the following industrial sites also are located within 20 miles of Taft, La. And all are located upstream from New Orleans, La. (pop. approx. 1 million).

American Cyanamid Company, Transmatch, Inc., Avondale Shipyars, Inc., Kaiser Aluminum & Chemical Corporation, Freeport Chemical Company.

Besides those located within 20 miles of Taft, the following chemical industrial sites are also located within 50 miles of Taft, La.:

CIBA-GEIGY CORP.

Stauffer Chemical Company

Allied Chemical Corporation

Borden, Inc.

Uniroyal, Inc.

Monochem, Inc.

Triad Chemical Co.

Melamine Chemical, Inc.

AGRICO Chemical Company

Gulf Oil Chemicals Company

Rubicon Chemicals, Inc.

Shell Chemical Company

Vulcan Materials Corporation

Exxon Chemical Company, USA.

Publicker Chemical Corporation

8/9-14. Combined background radiation from other nuclear power plants whose normal operations allow discharging into the Mississippi River; accidental discharges; medical facilities such as hospitals; industrial radioactive materials; fallout from nuclear weapons tests in the atmosphere; the Waterford 3 Nuclear Power Plant; and the Riverbend Nuclear Power Plant. Medical therapy and diagnosis sources include medical and dental x-rays, cobalt treatment, and CAT scans.

8/9-15. Joint Petitioners refer to ALL types of low-level radiation. See:

"Alpha irradiation of the skin and the possibility of late effects," HEALTH PHYSICS, Vol. 35, December, 1978, pp. 803-806.

"Leukemia Risk From Neutrons," HEALTH PHYSICS, Vol. 34, April, 1978,

pp. 353-360.

"Radon-222 in Biologically Produced Gas From a Reactor Cooling Pond," HEALTH PHYSICS, Vol. 34, June, 1978, pp. 701-704.

"The Strentium Specter Again," HOSPITAL PRACTICE, January, 1978, pp. 144-146.

8/9-16. Insofur as it is known that there is no level of radiation exposure at which no biological effects are detectable, it is believed that the role of radiation in synergism is also without a threshold level below which there is no synergism. In fact, because of the multiplicative natuure of synergistic interactions, effects of synergism can be detected at lower levels than effects of radiation alone. Support for this position can be seen from the following research materials:

a) "Risks caused by Low Levels of Pollution," THE YALE JOURNAL OF BIOLOGY AND MEDICINE, Vol. 51, 1978, pp. 37-51.

b) "Effect of Radiation Dosage on the Synergism Between Radiation and Estrogen in the Production of Mammary Cancer in the Rat," CANCER RESEARCH, Vol. 38, October, 1978, pp. 3445-3452.

c) BIOLOGY OF RADIATION CARCINOGENESIS, Raven Press, New York, 1976, Chapter entitled "IN VITRO TRANSFORMATION: INTERACTIONS OF CHEMICAL CARCINOGENS AND RADIATION," pp. 334-342.

d) MEDICAL INTERNATIONAL RADIATION DOSAGE (MIRD).

8/9-17. Insofar as the U.S. Food and Drug Administration utilizes animal data to indicate human health effects, Joint Petitioners have used animal-based as well as clinically-based and IN VITRO models to support

Contention 8/9.

8/9-18. Until Waterford 3 begins operations, it is impossible to "specifically identify" levels of radiation exposure from all pathways for all individuals residing within 3 miles of industrial sites identif 'n Answer to Interrogatory 8/9-13. It seems likely, though, even at this early date, that residents of Killona, La. will accumulate higher doses of both radiation and chemical carcinogens than perhaps other populations.

NOTE: However, that gaseous and Mississippi River plume patterns for Waterford 3 established t observation/monitoring before this question can be answered fully.

8/9-19. Support for the interaction of pollutants identified in Interrogatory 8, 9 and 10 may be found in the following references:

a) "Plutonium in Drinking Water: Effects of Chlorination on its Maximum Permissible Concentration," SCIENCE, Vol. 201, 15 Sept. 1978, pp. 1008-1009.

b) "Radiation Activation of Carcinogens and the Role of $^{\cdot}OH$ and O_2," PHOTOCHEMISTRY AND PHOTOBIOLOGY, Vol. 28, 1978, pp. 877-880.

c) BIOLOGY OF RADIATION CARCINOGENESIS, Raven Press, New York, 1976, Chapter entitled "The Metabolic Activation of Chemical Carcinogens to Reactive Electrophiles," pp. 147-164.

d) ORIGINS OF HUMAN CANCER, Chapter entitled "Radiation Effects", Cold Spring Harbor Conferences on Cell Proliferation, Vol. 4 published by Cold Spring Harbor Laboratory, 1977.

8/9-20. Until Waterford 3 begins operations and actual plume patterns (gaseous and in Mississippi River), sedimentation rates and other parameters can be established by direct observation, exact location of individuals who will be exposed to radiation in excess of "background" levels remains somewhat speculative.

Again, as in Answer to 8/9-18, individuals residing in Killona, La. (about 1 mile from Waterford 3) could be expected to be exposed to low-level radiation in gaseous releasees from Waterford 3. Individuals in Laplace and in Luling could be similarly exposed.

In the event of a serious accident, of any type of uncontrolled release of radioactive gases, individuals within a 30 mile radius of Taft (depending on wind direction and velocity at the time) could be exposed to low-level radiation in excess of background levels.

In the event of an accident or any other type of uncontrolled release of radioactive liquids into the Mississippi River, individuals in cities/towns on both sides of the river whose community water source is the Mississippi River could be exposed to radiation levels above "Background". Depending on weather and river conditions, uncontrolled radiation emissions into the Mississippi River could expose individuals residing along the length of the river, from Taft to its mouth.

If the Bonnecarre Spillway were open (for seasonal flood control) at the time of such an emission, Lake Pontchartrain (25 miles in diameter with an average depth of 10-12 feet), only about 5 miles from Taft, could become contaminated, and thus expose communities along the circumference of Lake Pontchartrain to low-level radiation they would not ordinarily receive. NOTE: The mouth of the Bonnecarre Spillway is located only one mile from Waterford 3's "Out-Flow" site on the Mississippi

River.

Individuals outside of Louisiana could also be exposed to radiation levels above background via ingestion of seafood exported form South Louisiana throughout the United States. Radioactive Iodine is concentrated in seafood and is selectively absorbed by the human thyroid gland. Lake Pontchartrain, The Mississippi River, estuaries, and wetlands in South Louisiana, and immediate offshore waters are sources for huge commercial fisheries.

8/9-21. Persons who live within at least 3 miles of industries identified in 8/9-13 and who will live within routine radioactive emissions "Fall-Out" range will be exposed continually to both carcinogenic agents. Women and children, who can be expected to be at home and out-of-doors more than men, are also known to be more sensitive to the effects of radiation and thus to synergism.

Individuals who work in or near sources of chemical agents and who live within radioactive "Fall-Out" range would be virtually continuously exposed for biological purposes.

Likewise for all individuals who drink surface or ground waters containing both chemical and radioactive pollutants. (Current Louisiana water treatment facilities do not remove these agents.)

8/9-22. Stedman's Medical Dictionary: 1976. The Williams & Wilkins Company.

a) Effect: The result or consequence of an action.

b) Cumulative effect: Cumulative action; the conditions in which repeated administration of a drug may produce effects that are more

pronounced than the effects produced by the first doese. A cumulative effect can be avoided by administering the maintenance dose at intervals that balance the rate of absorption with the rate of excretion and inactivation.

d) Medical Pharmacology: Andres Goth, p. 49. 9th Ed., 1978. The C. V. Mosby Co.

e) "Synergism is defined in various ways. To some it means an additive, or greater than additive effect. Others reserve the term to cases where one drug increases the action of another by interferring with its destruction or disposition, thus greatly increasing its action.

f) Synergism: The joint action of agents so that their combined effect is greater than the algebraic sum of their individual parts.

g) Synergist: An agent that acts with or enhances the action of another.

h) Synergy: Correlated action or cooperation by two or more structures of drugs.

12-1 thru 12-6. Joint Intervenors are presently unable to answer NRC Interrogatories 12-1 thru 12-6 due to the fact that, even as of this writing, and having studied Applicant's Answers to Interrogatories, Joint Intervenors are still unable to determine what specific plans exist, or are postulated in future, for the transportation of spent fuel and radioactive nuclear wastes.

Joint Intervenors intend to supplement this response with more definite answers, pending further study of the issues raised by the Safety and Licensing Board's allowed Contention.

17-1a. Peter Cleary, Citizens for a Better Environment, Staff

Physicist, Richard Pollack, Director of the Critical Mass Energy Project, and Ron Lanoue, Critical Mass Energy Project.

b) Peter Cleary, Citizens for a Better Environment, Staff Physicist, Richard Pollack, Director of the Critical Mass Energy Project, and Ron Lanoue, Critical Mass Energy Project.

c) Peter Cleary, Citizens for a Better Environment, Staff Physicist, Richard Pollack, Director of the Critical Mass Energy Project, and Ron Lanoue, Critical Mass Energy Project.

17-2. Mr. Cleary's view could be summarized in a sentence: Until evacuation plans are tested in full scale, they probably do not work. Mr. Pollack and Mr. Lanoue's testimony is aired in part in Hearings before a subcommittee on Government Operations in the House of Representatives, May 7, 1979 (pp. 2-106).

17-3. The bases of Intervenor's Contention No. 17 is best expressed in the critique's set forth in the General Accounting Office Report EMD-78-110 and the 4th Report of the Committee on Government Operations dated August 8, 1979, the associated hearings, and documents contained therein; and the Emergency Planning Critiques of the President's Commission on the Three Mile Island Accident.

17-4. See Answer supra.

17-5. Applicant's emergency plan is non-existent; therefore it cannot be described or critiqued. Further, Joint Intervenors are advised by Applicant that Applicant intends to provide an emergency plan at a

subsequent date, at which time it will also provide Answers to Joint Intervenors Interrogatories Emergency Planning. Until such time Interrogatory 17-5 cannot be answered. 17-6. Emergency provisions which should be established are more particularly set forth in the references identified in Answer 17-3.

17-7. Requirements for emergency provisions with regard to evacuation of population masses are also identified with specificity in the documents set forth in Interrogatory 17-3.

17-8. Potassium Iodide should be stored in such manner as to make it most easily assessible to residents of St. Charles Parish, and other residents who will be readily affected by releases which constitute a radiation hazard.

17-9. The basis for requirement for storing Potassium Iodide as a thyroid radiation protection agent is found in the recommendations of the Presidential Commission on Three Mile Island, and the concurrence of the Nucelar Regulatory Commission as set forth in p. e-2, enclosure 1 of the Preliminary Analysis and Views of the Nuclear Regulatory Commission on the recommendation of the President's Commission on the Accident at Three Mile Island, dated November 9, 1979.

17-10. Joint Intervenors cannot give an Answer to this question at the present time in view of the fact that by its own acknowledgement the Nuclear Regulatory Commission is engaged in rule making designed to upgrade emergency preparedness standards and emergency preparedness capabilities around Nuclear Power Plants. See Section F, Preliminary

Analysis and Views in the Nuclear Regulatory Commission cited supra.

The Greater Metropolitan New Orleans Area is generally understood to mean the civil parishes of Orleans, Jefferson, St. Bernard and St. Tammany. This is the same area as recognized by the U.S. Department of Commerce as the New Orleans Standard Metropolitan Statistical Area.

17-11. Joint Intervenors are unable to Answer the question as stated; due to the fact that existing regulations, by admission of the Nuclear Regulatory Commission, are inadequate and are subject to change, following rule making procedures. Nevertheless the recent Three Mile Island Accident has shown that it has not unreasonable to consider evacuation within a 20 mile radius of a distressed nuclear power plant.

Availability of Potassium Iodide is not presently the subject of any legal authority, however as indicated in Answer 17-8 supra, respectable opinion within the scientific community as concurred by the NRC indicates the desirability of such protection against thyroid irradiation.

19-1a. Dr. Joel Selbin

19-2. His view is that Applicant has not provided a workable solution to problems of fuel element assembly guide wear.

19-3. Staff Question 231-1.

19-4. Joint Intervenors' concerns match those of the NRC staff in regard to this technical problem. Attached is a copy of Staff Question

231.1 and Applicant Answer. It is basis for belief that said technical questions is a "problem" and Applicant has failed to provide workable solutions. Joint Petitioners eagerly await the results of Combustion Engineering testing.

19-5. NRC must provide Joint Petitioner with definition of "resolved".

19-6. Joint Intervenors will seasonably update all documentary material as it becomes available.

20-1a. Dr. Joel Selbin

b. Refer to 1-1b.

c. Refer to 1-1b.

20-2. His view is that Applicant has not established a comprehensive solid waste process control program.

20-3. Joint Petitioners concerns match those of the NRC staff in regard to this technical problem. Attached is a copy of Staff Question 321.6 and Applicant answer.

20-4. For solid waste definition, see FSAR 11.4. Insufficiencies of Applicants program are adequately listed in Staff Question 321.6.

20-5. Applicant should have solid waste program conform to Branch Technical Position ETSB 11-3 (Rev. 1)

Joint Petitioner is not questioning the numbers as listed in above reference. Our concern lies in the absence of a meaningful program.

20-6. Joint Intervenors will seasonably update all documentary material.

21-1 a., b. and c. Joint Intervenors are unable to identify appropriate witnesses in support of Contention 21 at this time; and accordingly are unable to provide a response at this time. Nevertheless, full disclosure of all witnesses, addresses, professional qualifications of said witnesses will be provided to the NRC and Applicant.

21-2. See 21-1 above.

21-3. See 21-1 above.

21-4. See 21-1 above.

21-5. Joint Intervenors have been advised that there have been several reported incidences of runaway barges and other river traffic causing damage to the intake and/or discharge structures of the Waterford 3 facility. Inquiries have been made to the United States Coast Guard in order to obtain documentation of this fact. At the present time Intervenors are awaiting receipt of these materials.

21-6. Joint Intervenors are unable to respond to this interrogatory at the present time.

thirty (30) feet mean sea level, including those in the reactor auxilliary building, as set forth in Section 3.4.1. of Applicant's FSAR. A review of Applicant's plan in Figure 1.2-1, et seq. fails to disclose the existence of any means of egress and access between the outside and the reactor building or the reactor auxilliary building located at an elevation higher than 30.0 feet mean sea level. The entrance to containment, including the reactor auxilliary building identified above will be closed according to Applicant's Flood Protection Plan. The ultimate paragraph of Section 3.4.1 states "as discussed in Section 2.4.14, additional specific provisions for flood protection included administrative procedures to assure all watertight doors below elevation plus 30.3 feet MSL will be locked close in the event of a flood warning period". Further the technical specification for flood protection at Chapter 16, Section 3/4.7.6 states the requirement that within 12 hours following a flood warning all exterior doors below the elevation of plus 30 feet mean sea level will be secured. Thereafter, the reactor is required to go into a hot standby condition within six (6) hours and a cold shutdown condition within the following thirty (30) hours. The closure of the entrances and physical isolation of controlroom personnel, particularly in the event of an emergency condition is more fully set forth by the Applicant in its Chapter 6.4.

22-1. At the present time Applicant is in the process of identifying appropriate witnesses in support of this Contention, and will notify the NRC and Applicant by seasonably disclosure.

22-2. See 22-1. above.

22-3. See 22-1. above.

22-4. See 22-1. above.

22-5. See 22-1. above.

This should be noted that Joint Intervenors have filed Interrogatories with Applicant designed to illicite the information called for in 22-3, 22-4, and 22-5. At the present time Joint Intervenors Motion to Compel Disclosure of this Material by Applicant is pending before the Atomic Safety and Licensing Board; therefore at the present time these interrogatories are unanswerable.

23-1 thru 23-6. Please refer to Joint Intervenors Answers to Applicant's Interrogatories, which are copied hereinafter for your convenience.

Interrogatory 23-1 -

Identify the specific "geologic activities" discussed in the referenced Saucier Report which are the subject of Contention 23.

Answer - The "geologic activities" discussed in the Saucier Report include flooding caused by level breaching which is the result of movement of surface and lower strata in the Mississippi Basin; as well as fault lines clearly drawn through the vicinity of the Waterford 3 site.

Such activities would cause external flooding of the Waterford facility as a result of breaches of the level induced either by surface or sub-surface strata action.

Such activities would threaten the structural integrity of the fuel

sub-surface strata action.

Such activities would threaten the structural integrity of the fuel handling building containment structure and reactor auxilliary building as a result of the water pressures developed by such flood waters.

Respectfully Submitted,

GILLESPIE & JONES

BY _____

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(504) 835-6458

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STATE OF LOUISIANA

PARISH OF JEFFERSON

BEFORE ME, the undersigned, did appear GARY L. GROESCH, a person of the full age of majority and a resident of the Parish of Orleans, who did declare on oath that the Answers provided herein to Applicant's First Interrogatories are true and correct to the best of his knowledge, information and belief.

GARY L. GROESCH

Sworn to and subscribed before me, Notary, this 16th day of January, 1980.

NOTARY PUBLIC

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

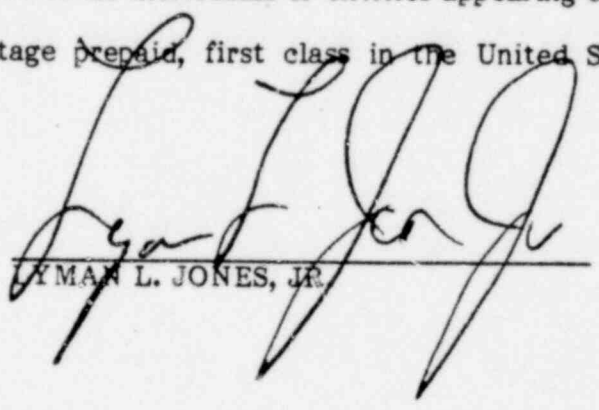
In the Matter of

LOUISIANA POWER AND LIGHT COMPANY DOCKET NO. 50-382

(Waterford Steam Electric Station Unit 3)

CERTIFICATE OF SERVICE

I hereby certify that on January 18, 1980, I mailed copies of Save Our Wetlands, Inc. and Oystershell Alliance, Inc.'s, JOINT INTERVENORS ANSWERS TO NRC STAFF INTERROGATORIES, AND RESPONSE TO REQUEST FOR DOCUMENTS to all individuals or entities appearing on the attached Service List, postage prepaid, first class in the United States Mail.



LYMAN L. JONES, JR.

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