

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
LOUISIANA POWER AND LIGHT COMPANY) Docket No. 50-382
(Waterford Steam Electric Station,)
Unit 3)

NRC STAFF INTERROGATORIES TO, AND REQUEST FOR DOCUMENTS
FROM, SAVE OUR WETLANDS, INC. AND OYSTERSHELL ALLIANCE, INC.

The NRC Staff hereby requests that the Joint Intervenors, Save Our Wetlands, Inc. and Oystershell Alliance, Inc., pursuant to 10 CFR §§ 2.740b and 2.741, answer separately and fully, in writing under oath or affirmation, the following interrogatories and produce or make available for inspection and copying, all documentary material identified in the responses to interrogatories below. As agreed in the "Stipulation on Discovery Schedule," forwarded to the Board by letter of September 25, 1979, Joint Intervenors will have 45 days to respond to the interrogatories below. Each response to the interrogatories below shall be under oath or affirmation of the individual(s) who contributed thereto. For all references requested in these interrogatories, identify them by author, title, date of publication and publisher if the reference is published, and if it is not published, identify the document by the author, title, the date it was written, the qualifications of the author relevant to this proceeding, and where a copy of the document may be obtained.

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Joint Intervenors' Contention No. 1^{1/}

Applicant has failed to demonstrate the necessity in the public interest for operation of the Waterford 3 facility, based upon the following considerations:

- a. Applicant's assignment of higher than reasonable figures for projected demand for electric power which ignore current diminution of demand for electricity on the order of 50% of past (i.e. 1960's & early 1970's) demands for electric power.
- b. Applicant's assignment of industrial demand factors for electricity which neglect to give appropriate discounts for self-generated industrial power, which industries and other large consumers of power are resorting to in the face of high and increasing electrical costs.
- c. Applicant's assignment of greater than reasonable factors for reserve electrical production capacity requirements.

- 1-1
- a. Upon what person or persons do you rely to substantiate your case on Contention 1?
 - b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
 - c. Identify which of the above persons you intend to call as witnesses on this contention.

1/ The numbering and wording of the contentions stated in these interrogatories conforms to that accepted by the Atomic Safety and Licensing Board in its Memorandum and Order dated September 12, 1979.

- 1-2. Provide summaries of the views, positions or proposed testimony on Contention No. 1 of all persons named in response to Interrogatory 1-1, that you intend to present during this proceeding.
- 1-3. State the specific bases and references upon which the persons in Interrogatory 1-1 rely to substantiate their views regarding Contention 1.
- 1-4. Indicate (setting forth all assumptions and bases for any assumptions) how you calculated a 50% "diminution of demand for electricity".
- 1-5. What do you believe are the proper figures for projected demand for electricity. Indicate how you derived these figures, listing all assumptions and bases therefor.
- 1-6. What percentage of the demand projection assigned by the Applicant to industrial demand for electricity, fails "to give appropriate discount for self-generated industrial power". Indicate how this percentage was derived and include all assumptions and bases therefor. In your response specifically identify the particular industries that are or will be resorting to "self-generation" of power.

- 1-7. Indicate what you believe should be the proper reserve electrical production capacity. Indicate how this reserve figure was derived and set forth all assumptions and bases therefor.
- 1-8. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.

Joint Intervenors' Contention No. 2

Applicant has failed to demonstrate the necessity in the public interest for operation of the Waterford 3 Facility based upon its understatement of costs of generating power at the facility which understatement of costs results from improper consideration of the following factors:

- a. Applicant has overstated the production capacity factor (i.e. generating capability of the facility) because of design inefficiencies and operating basis inefficiencies which are associated with the operation of pressurized water reactor (PWR) steam generators as was recently noted in the Division of Operating Reactors' recent March 2, 1979 communication to applicant enclosing NUREG-0523.

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- b. Applicant has understated the costs of obtaining uranium fuels which will be used to operate the facility based upon its disregard for the escalation of the costs of such fuel, which can be reasonably expected to rise in cost to at least three times present cost.
- c. Applicant has understated the costs of decommissioning the facility based upon its reliance on industry generated data which fail to properly cost account for properly safeguarding against radiation releases.
- d. Applicant has underestimated the costs associated with spent fuel storage and/or disposal for the life of the Waterford facility.

2-1 a. Upon what person or persons do you rely to substantiate your case on Contention 2?

- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the above persons you intend to call as witnesses on this contention.

2-2. Provide summaries of the views, positions or proposed testimony on Contention No. 2 of all persons named in response to Interrogatory 2-1, that you intend to present during this proceeding.

- 2-3. Indicate (specifying all assumptions and bases for assumptions) the basis for the following language in Contention 2b. "... uranium fuels... can be expected to rise in cost to at least three times present cost."
- 2-4. Indicate the specific industry generated data you make reference to in Contention 2c. and explain how it fails to properly cost account for properly safeguarding against radiation releases.
- 2-5. Indicate (specifying all assumptions and bases for assumptions) the proper way to cost account for properly safeguarding against radiation releases during decommissioning.
- 2-6. Indicate how the Applicant has underestimated the costs associated with spent fuel storage and/or disposal for the life of the Waterford facility.
- 2-7. Indicate (specifying all assumptions and bases for assumptions) the appropriate costs for spent fuel storage and/or disposal of spent fuel for the life of the Waterford facility.
- 2-8. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during

your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.

Joint Intervenors' Consolidated Contentions 8 and 9

Applicant has failed to properly evaluate the cumulative and/or synergistic effects of low-level radiation with environmental pollutants, known or suspected to be carcinogens.

8&9-1a. Upon what person or persons do you rely to substantiate your case on Consolidated Contentions 8 and 9?

- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the above persons you intend to call as witnesses on this contention.

8&9-2. Provide summaries of the views, positions or proposed testimony on Consolidated Contentions 8 and 9 of all persons named in response to Interrogatory 8 and 9-1 that you intend to present during this proceeding.

8&9-3. Define the term "effects" as they are used in Consolidated Contentions 8 and 9.

- 8&9-4. Indicate the time periods that "the cumulative and/or synergistic effects" are expected to be manifested.
- 8&9-5. Indicate the species (human, animals or plants) that will be exposed to "the cumulative and/or synergistic effects."
- 8&9-6. If human beings are included as an exposed species, indicate the body organs which will be affected by "the cumulative and/or synergistic effects."
- 8&9-7. State the specific bases and references upon which the persons named in response to Interrogatory 8 and 9-1, rely to substantiate their views regarding Consolidated Contentions 8 and 9.
- 8&9-8. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.
- 8&9-9. Indicate the body organs which will be affected by each of the "environmental pollutants, known or suspected to be carcinogens."

- 8&9-10. Identify each of the "environmental pollutants" you reference in Consolidated Contentions 8 and 9, which are "known or suspected to be carcinogens." State the basis for your belief that each such pollutant is a "known or suspected" carcinogen.
- 8&9-11. Indicate the latency period for each of the types of effects from each of the "environmental pollutants, known or suspected to be carcinogens."
- 8&9-12. Indicate the location of individuals who will be exposed to the "environmental pollutants, known or suspected to be carcinogens."
- 8&9-13. Indicate the source and location of the source of each of the "environmental pollutants, known or suspected to be carcinogens."
- 8&9-14. Indicate the source of the "low-level radiation" referred to in Consolidated Contentions 8 and 9.
- 8&9-15. Indicate the type of "low-level radiation" (alpha, beta, gamma or neutron) you are referring to.
- 8&9-16. Indicate the level of radiation which raises the concern referenced in Consolidated Contentions 8 and 9, indicating the bases for your

concern that at such level of radiation the referenced synergistic effects are likely to occur.

- 8&9-17. Indicate the health effects models you have used to support Consolidated Contentions 8 and 9.
- 8&9-18. Specifically identify the levels of radiation exposure (and its source) that individuals who are subjected to "environmental pollutants" will receive.
- 8&9-19. State the bases for your belief that the interaction of the pollutants identified in response to Interrogatory 8 and 9-10 with the level of radiation identified in response to Interrogatory 8 and 9-16 will have a "cumulative" or "synergistic" effect.
- 8&9-20. Indicate the location of individuals who will be exposed to the "low-level radiation."
- 8&9-21. Indicate the time periods that persons who are exposed to "low-level radiation" will be exposed to "environmental pollutants, known or suspected to be carcinogens."
- 8&9-22. Define the terms "cumulative," and "synergistic" as they are used in Consolidated Contentions 8 and 9.

Joint Intervenors' Contention 12

Applicant has failed to properly evaluate risks to humans caused by transportation of spent fuel and radioactive nuclear wastes into and through the New Orleans area because the details of Applicant's proposal for such transportation do not meet the requirements of the Commission's interim final rule which amends 10 CFR Part 73 (44 Fed. Reg. 34466, June 15, 1979).

- 12-1 a. Upon what person or persons do you rely to substantiate your case on Contention No. 12?
 - b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
 - c. Identify which of the above persons you intend to call as witnesses on this contention.
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- 12-2. Provide summaries of the views, positions or proposed testimony on Contention No. 12 of all persons named in response to Interrogatory 12 that you intend to present during this proceeding.
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- 12-3. State the specific bases and references upon which the persons named in response to Interrogatory 12-1, rely to substantiate their views regarding Contentiion 12.
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- 12-4. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you

intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.

- 12-5. Specifically identify each requirement of the Commission's interim final rule which amends 10 CFR Part 73 that is not satisfied by the Applicant's plan to transport spent fuel and nuclear wastes into and through the New Orleans area. Explain in detail the basis for your belief that the Applicant's plan does not satisfy these requirements.
- 12-6. Provide the specific basis and references for your contention that spent fuel and radioactive wastes will be transported into and through the New Orleans area.

Joint Intervenors' Contention No. 17

Applicant has failed to adequately make provision, according to the Emergency Plan contained in Chapter 13.3 of the FSAR, for the following emergency contingencies:

- a. Evacuation of individuals located in the immediate vicinity of the site, within St. Charles Parish in the event of a serious reactor incident

- b. Evacuation of population masses located within a 20-mile radius of the Waterford 3 site in the event of a serious reactor incident, as was contemplated during the recent crisis at the 3 Mile Island Facility in Pennsylvania.
- c. Storage of potassium iodide in locations which are readily accessible to affected individuals as protection against thyroid irradiation.
- d. Evacuation of residents of the Greater Metropolitan New Orleans Area.

- 17-1 a. On what person or persons do you rely to substantiate your case on Contention No. 17?
- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the persons identified in a. you intend to call as witnesses on this contention in this proceeding.
- 17-2. Provide summaries of the views, positions, or proposed testimony on Contention No. 17 of all persons named in response to Interrogatory 17-1 that you intend to present during this proceeding.
- 17-3. State the specific bases and references upon which the persons named in response to Interrogatory 17-1 rely to substantiate their views regarding Contention No. 17.

- 17-4. Identify all documentary or other material that you intend to use in this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.
- 17-5. Indicate how the Applicant's emergency plan has failed to adequately provide for evacuation of individuals located in the immediate vicinity of the site, within St. Charles Parrish in the event of a serious reactor incident.
- 17-6. Indicate the emergency provisions (specifying the basis for each provision) which should be established with regard to evacuation of individuals located in the immediate vicinity of the site, within St. Charles Parrish in the event of a serious reactor incident.
- 17-7. Indicate what emergency provisions (specifying the bases for each provision) should be established by the Applicant with regard to evacuation of population masses located within a 20-mile radius of the Waterford 3 site in the event of a serious reactor incident.
- 17-8. Indicate where you believe potassium iodide should be stored and the basis for your belief that such storage of potassium iodine is necessary.

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- 17-9. Indicate the specific provisions (giving the legal and technical bases therefore) that must be made in the Applicant's emergency plan for the residents of the Greater Metropolitan New Orleans area.
- 17-10. Identify precisely the boundaries of the "Greater Metropolitan New Orleans area" and the legal basis for such boundaries.
- 17-11. Indicate the legal authority that requires, as a condition for licensing a nuclear power plant, that the Applicant make provision for:
- a. Evacuation of population masses located within a 20-mile radius of the Waterford 3 site.
 - b. Potassium iodide to be readily available for protection against thyroid irradiation.
 - c. Evacuation of residents of the Greater Metropolitan New Orleans area.

Joint Intervenors' Contention 19

Applicant has failed to provide workable solutions to problems of fuel element assembly guide wear which is caused to fuel element assemblies by the difference in durability of the fuel element assembly guide tubes which

are relatively soft and the cladding on the control rods which is a relatively hard wear surface. A more complete discussion of this problem is contained in Staff Question 231.1.

- 19-1 a. What person or persons do you rely to substantiate your case on Contention 19?
 - b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
 - c. Identify which of the above persons you intend to call as witnesses on this contention.
- 19-2. Provide summaries of the views, positions or proposed testimony on Contention No. 19 of all persons named in response to Interrogatory 19-1 that you intend to present during this proceeding.
- 19-3. State the specific bases and references upon which the persons named in response to Interrogatory 19-1 rely to substantiate their views regarding Contention 19.
- 19-4. Identify specifically and in detail the "problems of fuel element assembly guide wear" referred to in Contention 19 and indicate the bases for your claim that the matters identified are or will be "problems" at Waterford, Unit 3. Indicate why you believe that the Applicant has failed to provide workable solutions to "problems" of fuel element assembly guide tube wear.

19-5. How do you think the problem of fuel element assembly guide tube wear can be resolved?

19-6. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.

Joint Intervenors' Contention 20

Applicant has failed to provide for comprehensive solid waste process control program by establishing acceptable process parameters such as pH, ratio of waste to solidification, temperature, etc. which will provide reasonable assurance of compliance with NRC requirements for complete solidification of wet wastes, as more particularly set forth in NRC Staff question 321.6.

- 20-1 a. Upon what person or persons do you rely to substantiate your case on Contention 20?
- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the above persons you intend to call as witnesses on this contention.

- 20-2. Provide summaries of the views, positions or proposed testimony on Contention No. 20 of all persons named in response to Interrogatory 20-1 that you intend to present during this proceeding.
- 20-3. State the specific bases and references upon which the persons named in response to Interrogatory 20-1 rely to substantiate their views regarding Contention 20.
- 20-4. Define in detail what is meant by "solid waste" as that term is used in Contention 20. How is the Applicant's solid waste process control program insufficient?
- 20-5. What do you believe the Applicant's solid waste process control program should include giving bases for each aspect of the program? Specifically indicate parameters for pH and ratio of waste to solidification, and temperature.
- 20-6. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.

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Joint Intervenors' Contention 21

Applicant has failed to appropriately evaluate the effects of maximum possible flood conditions upon the following:

- a. Availability of back-up cooling, in the event of damage to water intake and discharge structures in the Mississippi River.
- b. Damage to back-up cooling structures which could curtail availability of water supplies required for proper operation of safety systems.
- c. Effects of physical isolation of essential personnel in the control room in the event of a medical emergency, resulting from closure of the primary entrance way into the containment structure.
- d. Effects of lack of accessibility of essential personnel in the control room in the event of an emergency requiring evacuation, resulting from closure of the primary entrance way into the containment structures.

- 21-1 a. What person or persons do you rely to substantiate your case on Contention 21?
- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the above persons you intend to call as witnesses on this contention.

- 21-2. Provide summaries of the views, positions or proposed testimony on Contention No. 21 of all persons named in response to Interrogatory 21-1 that you intend to present during this proceeding.
- 21-3. State the specific bases and references upon which the persons named in response to Interrogatory 21-1 rely to substantiate their views regarding Contention 21.
- 21-4. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.
- 21-5. Indicate how the water intake and discharge structures in the Mississippi River would be damaged.
- 21-6. Indicate how the backup cooling structures would be damaged resulting in curtailing availability of water supplies required for proper operation of the safety systems.
- 21-7. Identify the "primary entrance way into the containment structures" referred to in Contention 21(c) and (d).

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21-8. State specifically and in detail, with supporting bases:

- a. The manner in which the entrance to containment identified above will become closed as asserted in contention 21(c) and (d).
- b. The relationship between closure of the entrance to containment on the one hand and physical isolation and lack of accessibility of essential personnel in the control room on the other.

Joint Intervenors' Contention 22

Applicant has failed to discover, acknowledge, report or remedy defects in safety-related concrete construction.

- 22-1 a. Upon what person or persons do you rely to substantiate your case on Contention No. 22?
 - b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
 - c. Identify which of the above persons you intend to call as witnesses on this contention.
- 22-2. Provide summaries of the views, positions or proposed testimony on Contention No. 22 of all persons named in response to Interrogatory 22-1 that you intend to present during this proceeding.

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- 22-3. State the specific bases and references upon which the persons named in response to Interrogatory 22-1, rely to substantiate their views regarding Contention 22.
- 22-4. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.
- 22-5. Specify the location and describe the nature and extent of each defect noted in Contention No. 22. For each such defect, indicate the basis for your belief that such defect exists. If your basis is any written material or reports, provide a copy of all such written material and reports.

Joint Intervenors' Contention 23

Applicant has failed to appropriately evaluate geologic activities within the vicinity of the plant as described by Roger T. Saucier in the study entitled "Recent Geomorphic History of the Pontchartrain Basin, Louisiana" published in U.S. Gulf Coastal Studies Technical Report No. 16, Part A, which activity could cause external flooding of the facility as well as threaten the structural integrity of the fuel handling building, containment structure and reactor auxiliary building.

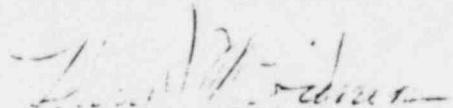
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- 23-1 a. Upon what person or persons do you rely to substantiate your case on Contention No. 23?
- b. Provide the addresses and education and professional qualifications of any persons named in your response to a. above.
- c. Identify which of the above persons you intend to call as witnesses on this contention.
- 23-2. Provide summaries of the views, positions or proposed testimony on Contention No. 23 of all persons named in response to Interrogatory 23-1 that you intend to present during this proceeding.
- 23-3. State the specific bases and references upon which the persons named in response to Interrogatory 23-1, rely to substantiate their views regarding Contention 23.
- 23-4. Identify all documentary or other material that you intend to use during this proceeding to support this contention and that you intend to offer as exhibits on this contention or refer to during your cross-examination of witnesses presented by the Applicant and/or the NRC Staff.
- 23-5. Describe the geologic activities within the vicinity of the plant which were noted by Roger T. Saucier in his study entitled "Recent Geomorphic History of the Pontchartrain Basin, Louisiana". Further,

identify their locations and describe how each of the specific activities will cause external flooding of the facility as well as threaten the structural integrity of the fuel-handling building, containment structure and reactor auxiliary building. Provide a copy of the study entitled "Recent Geomorphic History of the Pontchartrian Basin, Louisiana" or indicate how a copy of this document may be obtained.

- 23-6. In what respect is the Applicant's evaluation of the geologic activity described by Saucier inadequate? State in detail the bases for your assertions in this regard.

Respectfully submitted,



Henry J. McGurren
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 13th day of November, 1979

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