

Louisiana Power & Light Co.

UTILITY

(Energy Operations)

SITE

Waterford 3

ENCLOSURES

Answers to questions

attachment 1) 316(a)

2) 316(b)

ATTACHMENT ONE
WASTE MANAGEMENT QUESTIONS

This portion of the questionnaire is designed to gather information about the waste management practices in use today, as well as those techniques, practices and programs which may be planned, taking into consideration the High Level Waste Repository and facilities developed pursuant to the Low Level Radioactive Waste Policy Amendments Act of 1985. The information is relevant to both the remaining period of the current operating license and for the license renewal period. Since several of the questions concern projections into the renewal term (an additional 20 years beyond the original licensing term), utilities which have not yet considered license renewal may not be able to answer these questions. Most questions should be answered in 2 or 3 sentences; some may take a few paragraphs.

One survey form should be completed for each site. In some instances, a utility may choose to respond for the entire site, in other instances it may select to respond separately for each unit on a site because of varying waste management practices or techniques. In all cases, please indicate if responses apply to more than one unit.

Information filed with your state compacts or LLRW management agency may prove a useful reference when completing this portion of the questionnaire. Based on our pilot study, the Waste Management questions should take approximately 8 man-hours to answer.

A. Spent fuel questions:

1. Which of the following current techniques for at-reactor storage are you using and how?
 - A. Re-racking of spent fuel.

WASTE MANAGEMENT QUESTIONS (cont.)

- B. Control rod repositioning.
 - C. Above ground dry storage.
 - D. Longer fuel burnup. This one applies
 - E. Other (please identify).
2. Do you plan on continuing the use of these current techniques for at-reactor storage of spent fuel during the remaining time of your operating license or do you expect to change or modify them in some way?
We will need additional storage - looking at alternatives now
3. Which of the following techniques for at-reactor storage do you anticipate using until off-site spent fuel storage becomes available and how?
- A. Re-racking of spent fuel.
 - B. Control rod repositioning.
 - C. Above ground dry storage. This one applies
 - D. Longer fuel burnup.
 - E. Other (please identify).
4. Will the techniques described above be adequate for continued at-reactor storage of spent fuel for the operating lifetime of the plant, including a 20-year period of license renewal, or are you developing other plans? Uncertain at this time
5. Do you anticipate the need to acquire additional land for the storage of spent-fuel for the operating lifetime of the plant, including a 20-year period of license renewal? If so, how much land? When would this acquisition occur? Where? (if answer is "yes", 3-4 sentences)
- No
6. Do you anticipate any additional construction activity on-site, or immediately adjacent to the power plant site, associated with the

WASTE MANAGEMENT QUESTIONS (cont.)

continued at-reactor storage of spent fuel for the operating lifetime of the plant, including a 20-year period of license renewal? (yes/no)

Yes

7. If you answered yes to question 6, briefly describe this construction activity (e.g., expansion of fuel storage pool, building above ground dry storage facilities)

B. Low-level radioactive waste management questions:

1. Under the current scheme for LLRW disposal (i.e. LLRW Policy Amendments Act of 1985 and regional compacts) is there currently or will sufficient capacity for wastes generated during the license renewal period be available to your plant(s)? If so, what is the basis for this conclusion? Yes, The Central States Compact is presently scheduled to be operational January 1, 1993

2. If for any reason your plant(s) is/are denied access to a licensed disposal site for a short period of time, what plans do you have for continued LLRW disposal? Interim storage until capacity is available

3. In a couple of pages, please describe the specific methods of LLRW management currently utilized by your plant. What percentage of your current LLRW (by volume) is managed by:

- A. Waste compaction? All dry active waste
B. Waste segregation (through special controls or segregation at radiation check point)? 30% of waste generated in RCA
C. Decontamination of wastes? During outages ~ 10%
D. Sorting of waste prior to shipment? NA
E. Other (please identify) NA

WASTE MANAGEMENT QUESTIONS (cont.)

Waste is segregated at the point of generation in radiologically controlled areas. Waste generated in "non-contaminated" areas is monitored for release. Waste generated in "Contaminated" areas is transported for disposal or further processing for disposal. Some waste, such as metals are processed for decontamination.

4. At the present time Waterford 3 is anticipating the availability of the Central States LLRW facility for disposal of waste. In the event that this facility may be delayed, plans for an onsite interim storage facility have been made. The onsite facility, however is only planned for 5 years storage capacity. Waste management practices are not anticipated to significantly change in the future.

WASTE MANAGEMENT QUESTIONS (cont.)

9. To provide information on future low-level waste streams which may effect workforce levels, exposure, and waste compact planning, do you anticipate any major plant modifications or refurbishment that are likely to generate unusual volumes of low-level radioactive waste prior to, or during, the relicensing period for the plant? If so, please describe these activities. Also, what types of modifications do you anticipate to be necessary to achieve license renewal operation through a 20-year license renewal term? none presently planned.

C. Mixed low-level radioactive waste question:

1. If your plant generates mixed LLRW, how is it currently being stored and what plans do you have for managing this waste during the license renewal period? The Central States Compact facility is designed to store mixed waste.



NUCLEAR MANAGEMENT AND RESOURCES COUNCIL

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*** TELECOPY ***

DATE: 7/19/90

TO: Marty Schweitzer

FROM: T. Heroux

NUMBER OF PAGES 4 INCLUDING
COVER SHEET

COMMENTS/INSTRUCTIONS: _____

OUR TELECOPY NUMBER IS
(202) 785-1898
OR
(202) 785-1498

ATTACHMENT THREE

ANSWERS TO SOCIOECONOMIC
QUESTIONS FOR UTILITIES

- 1) Approximately 1800 permanent workers were on site in 1989.
-This estimate includes long-term contractors.
- 2) The average number of permanent on site workers in the five-year increment (1984-1989) since the issuance of the Waterford 3 operating license is approximately 1900 workers.
- 3) A) A typical planned outage requires an additional 1000 workers.
B) ISI's are included in the refueling outages at this site.
C) The largest outage to date was Refuel III which lasted 58 days and involved approximately 1200 additional workers. The total cost of Refuel III was about \$25.4 million and the total man-rem accumulation was 288.9.

Summary of Contract Personnel by %

NOC	47
Health Physics	18
Maintenance	
-Mechanical	16
-Electrical	4
-I&C	4
Operations	4
QA	2
Procurement	2
Radwaste	1
Security	1

Summary of Refuel Cost by %

Vendor Services	35.2
Additional Craft	14.1
Materials	11
LP&L Overtime	7
Special Services	5.7
Consultants	1.6
Other	4

Summary of Departmental Man-Rem by %

NOC	35.2
Maintenance	
-Mechanical	14.1
-I&C	3.2
Operations	13.5
Health Physics	11
Radwaste	10.4
Plant Engineering	5.8
QA	2.8
Other	4

Principal Tasks Performed During Refuel III

Refuel
Reactor Cooling Pump Maintenance
Turbine Generator Inspections
Steam Generator Work
 -Eddie Current
 -Bat-Wing Inspection
 -Sludge Lancing
Circ Water Dredging
MSIV A&B
 -Inspection
 -Stem Replacement
 -Hydraulic Package Modification
Electrical Bus Maintenance
Snubber Inspection
Motor Operated Valve Testing (53 valves)
Inservice Inspections (715 examinations)
Erosion/Corrosion Inspection
10-year Hydrostatic Tests
Condenser Inspection/Repairs
Station Modifications (51 worked)

- 4) Tax records do not itemize LP&L property. Waterford 3 is included in the entire tax record.

	<u>1980</u>	<u>1985</u>	<u>1989</u>
Assessed Value	*	\$30,257,260	\$45,626,120
Taxes Paid	*	\$2,477,780	\$4,327,620

* Information not available.

NOTE: Waterford 3 is on a 10-year tax exemption contract
exempts the taxes on the building and equipment at
the plant site. This contract expires in 1995 and
Waterford 3 will be on the tax role in 1996.

ATTACHMENT THREE

ANSWERS TO SOCIOECONOMIC QUESTIONS FOR UTILITIES

1. Approximately 1200 permanent workers were on site in 1989.
This estimate includes long-term contractors.
2. The current number of permanent on site workers in the five
year increment (1981-1989) since the issuance of the California
3 operating license is approximately 1900 workers.
3. A 100,000 gallon outage requires an additional 1000
workers.
4. 191's are included in the refueling outages at this site.
5. The largest outage to date was Refuel III which lasted 58
days and involved approximately 1200 additional workers.
The total cost of Refuel III was about \$25.4 million and
the total man-rem of this outage was 292,8.

Summary of Contract Personnel by 1

NOC	17
Health Physics	18
Maintenance	
-Mechanical	10
-Electrical	4
-I&C	1
Operations	4
QA	2
Procurement	2
Radwaste	1
Security	1

Summary of Refuel Cost by 1

Vendor Services	25.2
Additional Craft	11.1
Materials	11
LPOL Overtime	-
Special Services	5.7
Consultants	1.0
Other	4

ATTACHMENT TWO
AQUATIC RESOURCE QUESTIONS

Question 1:

Post-licensing modifications and/or changes in operations of intake and/or discharge systems may have altered the effects of the power plant on aquatic resources, or may have made specifically to mitigate impacts that were not anticipated in the design of the plant. Describe any such modifications and/or operational changes to the condenser cooling water intake and discharge systems since the issuance of the Operating License.

Response:

There have been no operational phase changes in the Waterford 3 intake and discharge systems that may have altered the effects of the plant on the aquatic environment.

Question 2:

Summarize and describe (or provide documentation of) any known impacts on aquatic resources (e.g., fish kills, violations of discharge permit conditions) or National Pollutant Discharge Elimination System (NPDES) enforcement actions that have occurred since issuance of the Operating License. How have these been resolved or change over time? (The response to this question should indicate whether impacts are ongoing or were the result of start-up problems that were subsequently resolved.)

Response:

Below is a summary listing of NPDES Permit violations of permit conditions, fish kills, etc. since issuance of the Waterford 3 Operating License:

- 1) Noncompliance report which was submitted to the EPA describing a December 26, 1984 NPDES permit limitation exceedance for 5-day biological oxygen demand at a package extended aeration unit for treatment of sanitary sewage.
- 2) Two oil spills occurred in 1985 which are described as follows:
 - a) Oil spill notifications to the State of Louisiana Department of Conservation (dated October 7, 1985), and the Water Pollution Control Division (dated October 10, 1985), for a September 27, 1985 discharge of approximately 100 gallons of oil which did not leave LP&L property.
 - b) Oil spill notifications to the State of Louisiana Department of Conservation and the Water Pollution Control Division (both dated October 15, 1985) for an October 3, 1985 discharge of approximately 200 gallons of oil which did not leave LP&L property.

Both incidents were also reported to the EPA as noncompliances as the discharges were made from an NPDES permitted outfall (the yard oil separator - Outfall 002).

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Response:

There have been no operational phase changes in the Waterford 3 intake and discharge systems that may have altered the effects of the plant on the aquatic environment.

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- 2) Two oil spills occurred in 1985 which are described as follows:
 - a) Oil spill notifications to the State of Louisiana Department of Conservation (dated October 7, 1985), and the Water Pollution Control Division (dated October 10, 1985), for a September 27, 1985 discharge of approximately 100 gallons of oil which did not leave LP&L property.
 - b) Oil spill notifications to the State of Louisiana Department of Conservation and the Water Pollution Control Division (both dated October 15, 1985) for an October 3, 1985 discharge of approximately 200 gallons of oil which did not leave LP&L property.

Both incidents were also reported to the EPA as noncompliances as the discharges were made from an NPDES permitted outfall (the yard oil separator - Outfall 002).

- 3) In September 1989, a small fish kill occurred as a result of a hydrazine release. It was conservatively estimated that a maximum of 261 pounds of hydrazine, at a maximum concentration of 210 ppm, was discharged into the onsite drainage ditch between September 24-25, 1989. Remedial actions included immediate damming of the ditch along with dilution and oxygenation activities. By October 2, 1989, the highest hydrazine concentration was less than 0.06 ppm. The discharge was not in accordance with Waterford 3 administrative procedures. Implementing procedures were revised to reflect the specific requirements of the administration procedures and Waterford 3 personnel, especially those involved with system operations and treatment of liquid effluents, were made aware of the incident. These actions should preclude recurrence of such an incident. "Notification of Unauthorized Discharge" was sent to the Louisiana Department of Environmental Quality with copies to the EPA (Region VI), St. Charles Parish Local Emergency Planning Committee, Louisiana State Police - Hazardous Material Unit, and the NRC. A separate report of the event was submitted to the NRC pursuant to Section 5.4.2 of the Environmental Protection Plan (non-radiological).

Question 3:

Changes to the NPDES permit during operation of the plant could indicate whether water quality parameters were determined to have no significant impacts (and were dropped from monitoring requirements) or were subsequently raised as a water quality issue. Provide a brief summary of changes (and when they occurred) to the NPDES permit for the plant since issuance of the Operating License.

Response:

The following is a summary of changes to the NPDES Permit since issuance of the Operating License:

- a) An NPDES permit modification request was submitted to the EPA on March 1, 1985. Requested modifications included increased flow limitations for the Circulating Water System (CWS), Boron Management System (BMS), Waste Management System (WMS), and Primary Water Treatment System (PWTS); increased discharge of boron from the BMS and WMS; and addition of a new outfall for direct discharge of steam generator blowdown to the CWS. All but the boron related modifications were approved and the permit was modified effective September 24, 1985. Both an EPA Administrative Order and an Emergency Technical Specification Change were granted in May 1985 to permit the direct discharge of steam generator blowdown. None of the approved modifications involved a potentially significant unreviewed environmental question.
- b) Construction was completed to tie in to the Killona Municipal Sewage Treatment Facility, and a number of package extended aeration units serving office areas and the Waterford 3 Administration Building were removed from service in July 1985. This reduced the number of wastewater discharges from Waterford 3, and did not involve a potentially significant unreviewed environmental question.

- c) The NPDES permit was renewed by the EPA effective April 8, 1986, for 5 years, to expire at midnight, April 7, 1991. The renewed permit incorporated several modifications including alternate methods for calculating discharged heat and Circulating Water System flow, and provisions to discharge boron from the Waste Management System as well as the Boron Management System, and in concentrations greater than previously permitted. LP&L's request to the EPA for increased boron discharge limitations was preceded by a thorough review of existing literature and regulatory documents to insure that the request would not result in unacceptable environmental impacts, nonconformance with existing environmental regulations, nor involve an unreviewed environmental question. This study was submitted to the EPA in support of the permit modification request. (Copies were also provided to the NRC.) Prior to issuance of an Administrative Order on December 26, 1985 (which was not utilized by LP&L until January 1987) to allow discharge of boron at a level consistent with that subsequently incorporated into the permit, EPA requested NRC review and recommendations. NRC staff stated that they did not object to the proposed change, that the change was within the envelope addressed in the environmental statement, and that the benefits which would be realized by the permit modification (lower occupational exposures and reduced radioactive waste production) would tend to favor the permit modification.

Question 4:

An examination of trends in the effects on aquatic resources monitoring can indicate whether impacts have increased, decreased, or remained relatively stable during operation. Describe and summarize (or provide documentation of) results of monitoring of water quality and aquatic biota (e.g., related to NPDES permits, Environmental Technical Specifications, site-specific monitoring required by federal or state agencies). What trends are apparent over time?

Response:

There are no requirements at this time for operational phase aquatic monitoring at Waterford 3; therefore, such information is not available.

Question 5:

Summarize types and numbers (or provide documentation) of organisms entrained and impinged by the condenser cooling water system since issuance of the Operating License. Describe any seasonal patterns associated with entrainment and impingement. How has entrainment and impingement changed over time?

Response:

A program to analyze such entrainment and impingement is not a requirement at Waterford 3; therefore, such information is not available.

Question 6:

Aquatic habitat enhancement or restoration efforts (e.g., anadromous fish runs) during operation may have enhanced the biological communities in the vicinity of the plant. Alternatively, degradation of habitat or water quality may have resulted in loss of biological resources near the site. Describe any changes to aquatic habitats (both enhancement and degradation) in the vicinity of the power plant since the issuance of the Operating License including those that may have resulted in different plant impacts than those initially predicted.

Response:

No such studies have been made or are required at Waterford 3; therefore, such information is not available.

Question 7:

Plant operations may have had positive, negative, or no impact on the use of aquatic resources by others. Harvest by commercial or recreational fisherman may be constrained by plant operation. Alternatively commercial harvesting may be relatively large compared with fish losses caused by the plant. Describe (or provide documentation for) other nearby uses of waters affected by cooling water systems (e.g., swimming, boating, annual harvest by commercial and recreational fisheries) and how these impacts have changed since issuance of the Operating License.

Response:

Swimming, boating and fishing do not generally occur in the vicinity of the plant; therefore, a program to monitor such activities is not required.

Question 8:

Describe other sources of impacts on aquatic resources (e.g., industrial discharges, other power plants, agricultural runoff) that could contribute to cumulative impacts. What are the relative contributions by percent of these sources, including the contributions due to the power plant, to overall water quality degradation and losses of aquatic biota?

Response:

Biological productivity has been low in the Mississippi River in the vicinity of Waterford 3 long before the plant became operational. Heavy river traffic, high current velocities, floods, polluted land runoff, and municipal and industrial water effluents are contributing causes. Also, aquatic species in the plant area of the Mississippi River are not on the endangered species list. Therefore, programs to consider impact breakdowns from such sources have not been required nor are they anticipated.

Question 9:

Provide a copy of your Section 316(a) and (b) Demonstration Report required by the Clean Water Act. What Section 316(a) and (b) determinations have been made by the regulatory authorities?

Response:

Copies of the 316(a) and (b) Demonstration Reports are included in the attachment.