MAR 0 8 1985

50-382

MEMORANDUM FOR: Chairman Palladino
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: CONSIDERATION OF FULL POWER LICENSING OF WATERFORD 3

Consideration of full power licensing of Waterford Unit 3 is presently scheduled for March 15, 1985. Provided for your use is a copy of Supplement No. 10 to the Waterford 3 SER. The briefing package was transmitted to you by memo dated February 21, 1985. You should note that the cover letter for the briefing package stated that no SSER had been prepared and that the staff planned on issuing a letter Safety Evaluation to accompany issuance of the full power license. Since that time, however, the staff has completed documentation of a number of other items and has prepared Supplement No. 10 to the SER for Waterford.

(Signed) T. A. Rehm

for William J. Dircks
Executive Director for Operations

Enclosure:
Supplement No. 10 to the
Waterford 3 SER

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3/7/85	3/7/85	3/8/85	3/8/85	3/8/85	3/8/85

NUREG-0787
Supplement No. 10

Safety Evaluation Report

related to the operation of
Waterford Steam Electric Station,
Unit No. 3

Docket No. 50-382

Louisiana Power & Light Company

U.S. Nuclear Regulatory
Commission

Office of Nuclear Reactor Regulation

March 1985

NUREG-0787, Supp. 10 SER RELATED TO THE OPERATION OF WATERFORD STEAM ELECTRIC STATION, UNIT NO. 3 MARCH 1985

ABSTRACT

Supplement 10 to the Safety Evaluation Report for the application filed by Louisiana Power & Light Company for a license to operate the Waterford Steam Electric Station, Unit 3 (Docket No. 50-382), located in St. Charles Parish, Louisiana, has been prepared by the Office of Nuclear Reactor Regulation of the U.S. Nuclear Regulatory Commission. The purpose of this supplement is to update the Safety Evaluation Report by providing the staff's evaluation of information submitted by the licensee since the Safety Evaluation Report and its nine previous supplements were issued.

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APPENDICES

1 INTRODUCTION AND GENERAL DISCUSSION

1.1 Introduction

On July 9, 1981, the U.S. Nuclear Regulatory Commission (NRC) issued a Safety Evaluation Report (SER) (NUREG-0787) related to the operation of Waterford Steam Electric Station, Unit 3. Subsequently, nine supplements to the SER have been issued by the staff. This tenth supplement updates the SER by providing the staff's evaluation of information submitted by the licensee (Louisiana Power & Light Company (LP&L)) since the SER and its nine supplements were issued.

Each of the following sections of this supplement is numbered the same as the section of the SER that is being updated and the discussions are supplementary to and not in lieu of the discussion in the SER. Appendix A is a continuation of the chronology of the safety review. Appendix B is an updated bibliography. Appendix F is a list of principal contributors to Safety Evaluation Report Supplement 10 (SSER 10). Appendix H contains a letter from the Federal Emergency Management Agency concluding that offsite radiological emergency preparedness of Waterford 3 is adequate to protect the public health and safety in the event of an accident at the site. The Project Manager is James H. Wilson; he may be reached on (301) 492-7702.

1.7 Summary of Outstanding Issues

Section 1.7 of the SER and its supplements contained a list of outstanding issues. These issues have all been closed and at this time no safety issues remain that have not been resolved.

1.8 Confirmatory Issues

Confirmatory issues are those that were essentially resolved to the staff's satisfaction but for which certain confirmatory information has not yet been provided by the licensee. For the following issues, the staff has received that information and has confirmed the preliminary conclusion.

(1) shutdown cooling system relief valves (5.4.3)
(2) fire protection of safe shutdown capability (9.1.5)

At this time three issues remain for which the staff has not yet received the necessary confirmatory information. These issues, which are listed below with the SER section where they have been addressed, do not preclude issuance of the full-power license.

(1) auxiliary pressurizer spray system (5.4.3)
(2) coatings inside containment (6.1.2)
(3) equipment qualification (3.11.5)

1.9 License Conditions

In addition to those issues listed in the SER and its supplements as requiring a license condition to ensure that NRC requirements are met during power

ascension or plant operation, the staff has identified the following license conditions.

(1) Environmental Qualification (Section 3.11)

Before November 30, 1985, the licensee shall environmentally qualify all electrical equipment according to the provisions of 10 CFR 50.49.

(2) Post-Fuel-Loading Initial Test Program (Section 14, SER)

Any changes to the initial test program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 10 CFR 50.59(b) within 1 month of such change.

3 DESIGN CRITERIA - STRUCTURE, COMPONENTS, EQUIPMENT AND SYSTEMS

3.11 Environmental Qualification of Electrical Equipment Important to Safety and Safety-Related Mechanical Equipment

Supplement 8 to the Waterford SER states in Section 3.11.3 that aging analyses for all nonmetallic components in safety-related mechanical equipment located in a harsh environment should be completed before exceeding 5% power. The Waterford 3 low-power operating license contained license condition 2.C.6(b) to ensure that this requirement be fulfilled.

By letter from K. W. Cook (LP&L) to G. W. Knighton (NRC) dated February 15, 1985, the licensee has informed the staff that the required analyses have been performed, and that on the basis of these analyses, all safety-related mechanical equipment is qualified for its intended service life and environmental conditions. The results of the analyses are contained in the equipment files. These analyses were performed in accordance with the methodology previously accepted by the staff (SER Supplements 5 and 8).

On the basis of information provided in the licensee's February 15, 1985, letter, the staff finds that the licensee has met the requirements of license condition 2.C.6(b) and that this license condition will not be required in the Waterford 3 full-power operating license.

5 REACTOR COOLANT SYSTEM AND CONNECTED SYSTEMS

5.4 Component and Subsystem Design

5.4.3 Shutdown Cooling (Residual Heat Removal) System

During the recently completed staff generic review of the need for rapid depressurization capability of the reactor coolant system on plants with Combustion Engineering (CE) nuclear steam supply systems that do not have pressurizer power-operated relief valves (PORVs), the staff was made aware that the shutdown cooling system (SDCS) relief valves used on this class of plants (all Systems 80 designs and a few others) are about an order of magnitude larger (approximately 4,000 gpm) than those used on other pressurized water reactor (PWR) plants. At Waterford 3 these relief valves provide protection from brittle fracture for the reactor vessel during startup and shutdown in addition to providing overpressure protection for the SDCS system. The staff was aware that at the time the SDCS relief valves for these plants were manufactured, the ASME Code permitted such valves to be capacity certified solely by calculations performed by the manufacturer. The recently completed Electric Power Research Institute (EPRI) tests, performed on full-size PWR primary system safety valves (NUREG-0737, Item II.D.1), suggest that manufacturers cannot obtain a complete understanding of valve performance capability without at least some full-size test or operational experience. As a result, the staff requested the licensee to provide confirmation that the valves could perform their pressure relief function and then subsequently reclose. This was listed as a confirmatory item in SSER 6.

To satisfy the staff concern, representatives of CE and the valve manufacturer, Crosby Valve Division, Geosource, Inc., met with the staff on November 9, 1984. The licensee provided information to the staff (letter, December 14, 1984) that included some limited valve test data on valves slightly smaller than the SDCS valves but which could be correlated to SDCS valve performance expected for plant transient conditions. The manufacturer performed a particular test on a smaller valve at a pressure considerably below SDCS operating pressure but with ambient temperature water under full flow conditions. The licensee has shown that these test data along with test data using full pressure and temperature steam (that is, essentially SDCS operating pressure and temperature) are applicable for establishing valve operability for SDCS relief valve service conditions. In addition, a representative of the valve manufacturer stated that the extensive operating experience with this type of valve, both in nuclear and nonnuclear service, has been acceptable. The few problems the manufacturer observed were predominantly related to set pressure drift. The manufacturer is not aware of any failure to reclose for any valves of the type used on the Waterford 3 SDCS systems.

On the basis of the confirmatory information provided above, the staff has concluded that there is adequate assurance that the Waterford 3 SDCS relief valves can adequately perform their intended function to relieve system overpressure and subsequently reclose.

6 ENGINEERED SAFETY FEATURES

6.1 Engineered Safety Features Materials

6.1.2 Organic Materials

In Waterford 3 SSER 7, the staff resolved allegations A-256 and A-271 concerning unqualified paints inside containment. The licensee's paint applicator for coatings inside containment did not have any documentation concerning material certification, painter qualification, quality control certification, or work activity inspections. This does not meet the requirements of Regulatory Guide (RG) 1.54, which are incorporated in Section 6.1.2 of Revision 2 of the Standard Review Plan (SRP) (NUREG-0800). Therefore, paints inside containment are not considered qualified. Allegations A-256 and A-271 were dispositioned as having neither safety significance nor generic implications. However, as a result of an additional review, the staff found that this issue may have an impact on safety, and as a result a license condition was incorporated into the low-power license that stated the following: "Prior to January 18, 1985, the licensee shall provide for staff review and approval an evaluation of the potential adverse effects of the failure of coatings inside of containment on post-accident fluid systems."

In fulfillment of this license condition, the licensee provided an evaluation by letters dated January 17 and February 27, 1985.

Section 6.1.2 of Revision 1 of the SRP (NUREG-75/087), acceptance criterion II.2.C, permits unqualified coatings if it can be justified that the debris generated from unqualified coatings will not adversely affect the performance of postaccident fluid systems.

The staff calculated the amount of debris that could be generated as a result of a design-basis accident (DBA). On the basis of its evaluation, the staff finds that the coating debris generated under DBA conditions will not impair postaccident fluid systems performance. The licensee is performing confirmatory evaluations that will be completed by April 1, 1985, to support these conclusions. Furthermore, by letter dated February 27, 1985, the licensee committed to implement a containment coatings surveillance program, which provides additional assurance that deteriorating paint will be identified early and remedial action taken. The staff therefore concludes that the existing coating inside containment with the commitment of the surveillance program provides reasonable assurance that, as a result of an accident, accident debris will not affect the health and safety of the public.

On the basis of its evaluation, the staff has reasonable assurance that debris generated by the failure of unqualified coatings inside containment under design-basis accidents will not adversely affect the performance of postaccident fluid systems and, therefore, considers the unqualified coatings issue resolved pending confirmation of the results of additional evaluations.

9 AUXILIARY SYSTEMS

9.5 Other Auxiliary Systems

9.5.1 Fire Protection

9.5.1.2 Fire Protection Systems Description and Evaluation

The NRC staff has accepted the fire protection program for Waterford 3 with several approved deviations (SSER 8). By letter dated March 1, 1985, the licensee provided a revised fire hazard analysis for the high radiation pipe chase (Fire Area RAB-23A) that was created as a result of plant modifications. The licensee is not required to install fire detection or automatic fixed suppression in this fire area because it is totally enclosed by masonry block and reinforced concrete and is completely inaccessible. Combustible material consists of cable in trays that represents a fire load of about 9,500 Btu per square feet for an equivalent fire severity of about 7 minutes, as determined by the American Society for Testing and Materials (ASTM) Standard E-119 time-temperature curve. Because this area is inaccessible and because the cables are qualified by Institute of Electrical and Electronics Engineers (IEEE) Standard 383, if a fire were to originate in this location, the perimeter construction would be sufficient to confine the effects of the fire until it self-extinguishes. If all the cables were damaged in such a fire, a redundant shutdown capability exists that is independent of this fire area. The staff concludes that the existing configuration of Fire Area RAB-23A is adequate and, therefore, the absence of fire detection and automatic fixed suppression in that area is an acceptable deviation from the requirements of Appendix R.

The staff concludes that with the approved deviations listed in SSER 8, as modified above, the fire protection program for Waterford 3 meets General Design Criterion (GDC) 3, and therefore is acceptable.

9.5.1.4 Fire Protection of Safe Shutdown Capability

In Waterford 3 SSER 8, the staff concluded that the post-fire safe shutdown capability and alternative shutdown capability for Waterford 3 complied with the guidelines of SRP Section 9.5.1, positions C.5.b and C.5.c (Appendix R, Sections III.G.3 and III.L), pending the completion of the spurious signal analysis for a postulated fire in any plant area combined with a loss of offsite power.

By letters dated November 30, 1984, and February 7, 1985, the licensee provided the associated circuits analysis that evaluated the effects of spurious signals (i.e., hot shorts, open circuits, or shorts to ground) on the operation of systems, equipment, and components required to achieve and maintain safe shutdown conditions with or without the availability of offsite power. The licensee's analysis also considered the effects of damage on control room/cable vault circuits to ensure that transfer/isolation of circuits essential for achieving and maintaining safe shutdown can be accomplished. As a result of this analysis, the licensee proposed some hardware modifications including installation of

redundant fuses and selector switches, isolation switches, and cable rerouting, and also identified operator actions required to mitigate the effects of spurious actuations. The staff has reviewed the licensee's submittals regarding spurious circuit actuations that may result from fires. The staff concludes that the methodology and results of the analysis for identifying and rectifying undesired plant conditions from spurious actuations is acceptable. Further, the licensee has committed to complete the proposed modifications including necessary procedure revisions for implementation of the spurious signal analysis before startup following the first refueling outage. The staff considers this schedule to be acceptable. Until these modifications and procedural changes are completed, the interim post-fire safe shutdown measures previously approved will remain in effect.

On the basis of its review of the licensee's spurious signal analysis and proposed hardware modifications, the staff concludes that the post-fire safe shutdown capability and alternative shutdown capability for Waterford 3 complies with the guidelines of SRP Section 9.5.1, positions C.5.b and C.5.c (Appendix R, Sections III.G.3 and III.L), and is, therefore, acceptable.

13 CONDUCT OF OPERATIONS

13.3 Emergency Preparedness Evaluation

By letter dated January 25, 1985, the licensee requested an exemption from Section IV.F of Appendix E to 10 CFR 50 to the extent that it requires the conduct of a full-participation emergency preparedness exercise within 1 year before issuance of a full-power operating license for Waterford 3. The applicable provision of Section IV.F states:

> This exercise shall be conducted within 1 year before the issuance of the first operating license for full power and prior to operation above 5% of rated power of the first reactor....

Consistent with other Commission emergency planning regulations (see 10 CFR 50.47 and the Statement of Considerations at 47 Federal Register 30232 dated July 13, 1982), the objective of Section IV.F is to ensure that an offsite emergency preparedness exercise is conducted within 1 year before a nuclear power plant is authorized to exceed 5% of rated power. The license authorizing operation of Waterford 3 up to 5% of rated power, which was issued on December 18, 1984, did not constitute a full-power operating license, as referenced in Section IV.F. The licensee projects that Waterford 3 will be ready for full-power operation by mid-March 1985.

The first full-participation emergency preparedness exercise was conducted on February 8, 1984, and was determined by NRC and Federal Emergency Management Agency (FEMA) to be a successful test of both onsite and offsite capabilities. By letter to the NRC dated January 7, 1985 (Appendix H), FEMA concluded that, on the basis of the results of the exercise and the schedule of corrective actions to the identified deficiencies, offsite radiological emergency preparedness at Waterford 3 is adequate to provide reasonable assurance that the public health and safety can be protected in the event of an accident at the site. LP&L has scheduled an emergency preparedness exercise that includes partial state and local participation for September 1985.

In its exemption request, the licensee stated that the State of Louisiana participates in exercises with two other nuclear power plants during the year. Additionally, the licensee stated that Waterford 3 holds communication drills with state and local agencies monthly. Further, offsite activities for the local agencies that occurred during 1984 include drills, exercises, and activities related to preparedness for a range of natural and technological emergencies.

The staff has reviewed the licensee's exemption request and finds that the following factors support granting of the requested exemption:

(1) the favorable findings on the February 1984 exercise as stated in FEMA's letter of January 7, 1985

(2) the successful conduct of various drills that tested elements of the Waterford 3 Emergency Plan during 1984

(3) the participation by the State of Louisiana at the 1984 Grand Gulf emergency exercise

(4) the local agency preference for an exercise while school is in session to demonstrate protective actions for school children

(5) the scheduling of various drills throughout 1985, including a Waterford 3 exercise in September 1985 (agreed upon by FEMA), which will include partial state and local participation

The staff finds that an exemption is acceptable, provided that the September 1985 exercise is conducted as scheduled.

On the basis of the preceding, the staff concludes that the exemption from the requirements of 10 CFR 50, Appendix E, Section IV.F, as discussed above, is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest.

14 INITIAL TEST PROGRAM

One of the bases for issuing an operating license is that a plant will be tested in accordance with a staff-approved initial test program. Frequently, however, it is desirable for applicants/licensees to modify the approved test program because of the temporary unavailability of certain equipment or other factors. The purpose of license condition 2.C.10 in the Waterford 3 operating license is to ensure that any safety significant deviations from the staff-approved test program are identified to the staff in a timely manner. Experience has shown that some applicants/licensees have not attributed the appropriate level of importance to safety of some structures, systems, and components. Therefore, this license condition requires that 10 CFR 50.59 changes to the test program be reported within 1 month to provide added assurance that the plant is not operated for an extended period of time at power levels at which its safety is dependent on untested or inadequately tested structures, systems, or components. Furthermore, the 1-month reporting period provides reasonable assurance of NRC awareness of most test program changes before the test program is completed.

The license condition concerning the initial test program as it appeared in Operating License No. NPF-26 has been modified for Operating License No. NPF-38 by deleting a listing of examples of types of changes that require prior NRC approval. The license condition as it appears in the full-power license is less prescriptive and permits the licensee to determine which changes to the post-fuel-loading initial test program may be made and reported in accordance with the provisions of 10 CFR 50.59 without receiving prior NRC approval.

APPENDIX A
CONTINUATION OF CHRONOLOGY OF SAFETY REVIEW

November 20, 1984	Meeting with applicant to discuss reports by R. Meunow Associates, and EBASCO concerning cracking of common foundation basemat.
November 21, 1984	Letter from applicant forwarding revised responses to items from Waterford Review Team.
November 21, 1984	Letter from applicant transmitting proposed FSAR change and backup documentation regarding static uninterruptible power supply adjustment to frequency trip setpoints.
November 27, 1984	Letter from applicant requesting second certificate for pollution control facilities.
November 28, 1984	Letter from applicant transmitting amended request for extension of construction completion date to February 28, 1985.
November 28, 1984	Letter from applicant requesting operating license with authorization to operate up to 5% power.
November 28, 1984	Letter from applicant transmitting additional information on basemat hairline cracks.
November 29, 1984	Letter from applicant commenting on draft operating license.
November 30, 1984	Letter from applicant transmitting "Associated Circuits Analysis."
November 30, 1984	Letter from applicant forwarding additional information on basemat cracks.
November 30, 1984	Letter from applicant concerning Generic Letter 83-28.
November 30, 1984	Letter from applicant concerning safety parameter display system testing.
December 3, 1984	Letter from applicant clarifying information regarding FSAR Chapter 14.
December 3, 1984	Letter from applicant forwarding information on masonry wall deficiencies relative to Construction Appraisal Team findings.
December 5, 1984	Letter from applicant clarifying classification of Class II piping welds for balance-of-plant piping preservice inspection report.

December 6, 1984	Letter from applicant forwarding revised responses to Waterford Review Team Items 1 and 10.
December 7, 1984	Letter from applicant providing response to Item 4.5.3 of Generic Letter 83-28.
December 7, 1984	Letter from applicant regarding basemat monitoring and confirmatory analyses.
December 13, 1984	Letter from applicant advising that FSAR will be updated to reflect current ASME Code, Section III, Winter 1981 addenda commitment for essential chilled water system and component cooling water system piping.
December 13, 1984	Letter to applicant transmitting SSER 8.
December 13, 1984	Board Notification 84-187 issued regarding low-power operating license issuance.
December 14, 1984	Letter to applicant forwarding second Certificate of Pollution Control Facilities.
December 14, 1984	Letter from applicant forwarding compilation of FSAR changes intended for inclusion in final updated safety analysis report.
December 14, 1984	Letter from applicant concerning potential containment coatings failure.
December 14, 1984	Letter from applicant transmitting "Summary Report on Operability of Shutdown Cooling System Relief Valves for Waterford Unit 3."
December 17, 1984	Letter from applicant regarding toxic gas detection system operability.
December 18, 1984	Facility Operating License No. NPF-26 issued for 100% power, with 5% power restriction.
December 24, 1984	Board Notification 84-190 issued regarding issuance of operating license for Waterford 3.
December 26, 1984	Letter from licensee providing comments on proposed generic letter "QA Guidance Regarding ATWS Equipment Not Safety-Related.
December 26, 1984	Letter to licensee forwarding request for additional information on spurious signals analysis.
December 26, 1984	Letter from licensee advising of change in schedule for completion of permanent emergency operations facility.
December 27, 1984	Letter from licensee advising of establishment of vendor quality assurance (QA) organization to strengthen utility's QA program.

December 27, 1984	Generic Letter 84-24 - Environmental Qualification of Electric Equipment Important to Safety of Nuclear Power Plants.
December 28, 1984	Letter from licensee transmitting "Alert/Notification System," Revision 1.
January 3, 1985	Letter from licensee transmitting updated emergency plan implementing procedures.
January 3, 1985	Letter from licensee concerning basemat hairline cracks.
January 4, 1985	Letter from licensee forwarding information on schedule and requesting full-power authorization by February 26, 1985.
January 7, 1985	Memorandum from FEMA concerning schedule of corrective actions for deficiencies identified during emergency preparedness exercise.
January 9, 1985	Generic Letter 85-01 - Fire Protection Policy Steering Committee Report.
January 10, 1985	Letter from licensee requesting extension to February 11, 1985, for submittal of information on spurious signal analysis.
January 11, 1985	Letter from licensee forwarding "Pump and Valve Inservice Test Plan," Revision 2, and requesting relief from ASME Code, Section XI, regarding testing requirements.
January 11, 1985	Letter to licensee transmitting SSER 9.
January 14, 1985	Board Notification 85-006 issued regarding issuance of Waterford 3 SSER 9.
January 15, 1985	Letter from licensee transmitting revised response concerning water in basemat instrumentation conduit.
January 17, 1985	Letter from licensee transmitting report on evaluation of potential adverse effects of failure of containment coatings on postaccident fluid systems.
January 21, 1985	Letter from licensee advising of 10-day delay in achieving mode 4 milestone.
January 24, 1985	Letter to licensee regarding compliance with Appendix G of 10 CFR 50.
January 24, 1985	Letter from licensee advising that mode 4 was achieved on January 23, 1985, and that 10-day delay is expected in achieving mode 3.
January 25, 1985	Letter from licensee requesting exemption from 10 CFR 50, Appendix E, Section IV, regarding emergency preparedness exercise.

January 28, 1985	Letter from licensee providing certification of environmental qualification program in response to Generic Letter 84-24.
January 29, 1985	Generic Letter 85-04 - Operator Licensing Examinations.
January 29, 1985	Letter from licensee transmitting updated emergency plan implementing procedures.
January 30, 1985	Letter from licensee providing response to Item 4.5.3 of Generic Letter 83-28.
January 30, 1985	Letter to licensee forwarding concerns regarding Detailed Control Room Design Review Program Plan and advising that preimplementation audit will be held week of April 8, 1985.
January 31, 1985	Generic Letter 85-05 - Inadvertent Boron Dilution Events.
January 31, 1985	Letter from licensee transmitting "Prelicensing Issues Final Report."
February 5, 1985	Letter from licensee advising that mode 3 was achieved on February 1, 1985.
February 7, 1985	Letter from licensee concerning associated circuits analysis, including analysis of damage prior to transfer/ isolation of control room circuit.
February 8, 1985	Letter from licensee transmitting "Program To Perform Confirmatory Analyses, Nuclear Plant Island Structure Basemat at Waterford Steam Electric Station Unit 3" (draft).
February 8, 1985	Letter from licensee summarizing initial and exit interviews.
February 11, 1985	Meeting with licensee to discuss plant-specific evaluation of potential adverse effects of the failure of coatings inside containment on postaccident fluid systems.
February 12, 1985	Letter from licensee concerning basemat monitoring program.
February 13, 1985	Meeting with licensee to discuss confirmatory analyses and surveillance program for common foundation basemat.
February 15, 1985	Letter from licensee regarding environmental qualification advising that aging and radiation analysis for mechanical equipment located in harsh environment is complete.
February 18, 1985	Letter from licensee providing final response to items from Waterford Review Team.
February 18, 1985	Letter from licensee forwarding request for schedular exception for implementation of computerized emergency planning and acquisition system.

Februa 19, 1985	Board Notification 85-016 issued regarding full-power license.
February 22, 1985	Letter from licensee concerning associated circuits analysis, such as isolation panel modifications.
February 25, 1985	Letter from licensee concerning basemat monitoring and confirmatory analyses program plans.
February 27, 1985	Letter from licensee concerning its report on the evaluation of containment coatings.
March 1, 1985	Meeting with licensee to discuss performance of the reactor coolant pump seal packages.
March 1, 1985	Letter from licensee concerning revised fire hazards analysis for high radiation vertical pipe chase.

APPENDIX B

BIBLIOGRAPHY

Code of Federal Regulations, Title 10, "Energy" (including General Design Criteria), U.S. General Services Administration, Office of the Federal Register, National Archives and Records Service, U.S. Government Printing Office, Washington, D.C.

Louisiana Power & Light Company, "Final Safety Analysis Report, Waterford 3 Steam Electric Station, Unit No. 3."

U.S. Nuclear Regulatory Commission, "10 CFR Part 50 - Emergency Planning and Preparedness," 47 Federal Register 30232, July 13, 1982.

---, NUREG-0737, "Clarification of TMI Action Plan Requirements," Supplement 1 (Generic Letter 82-33), Dec. 1982.

---, NUREG-0787, "Safety Evaluation Report Related to the Operation of Waterford Steam Electric Station, Unit No. 3," July 1981; Supplement 1, Oct. 1981; Supplement 2, Jan. 1982; Supplement 3, Apr. 1982; Supplement 4, Oct. 1982; Supplement 5, June 1983; Supplement 6, June 1984; Supplement 7, Sept. 1984; Supplement 8, Dec. 1984; Supplement 9, Dec. 1984.

---, NUREG-0800 (formerly NUREG-75/087), "Standard Review Plan for Review of Safety Analysis Reports for Nuclear Power Plants - LWR Edition" (including Branch Technical Positions), July 1981.

APPENDIX F

PRINCIPAL CONTRIBUTORS TO SSER 10

Name	Branch
R. Anand	Auxiliary Systems
F. Cherny	Mechanical Engineering
H. Garg	Equipment Qualification
D. Kubicki	Chemical Engineering
R. Becker	Procedures and Systems Review
D. Perrotti	Emergency Preparedness Licensing
F. Witt	Chemical Engineering

APPENDIX H

FEDERAL EMERGENCY MANAGEMENT AGENCY'S SUPPLEMENTAL FINDINGS

Federal Emergency Management Agency

Washington, D.C. 20472

JAN 7 1985

MEMORANDUM FOR: Edward L. Jordan
Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission

FROM: Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological Hazards
Programs

SUBJECT: Waterford III Steam Electric Station - Schedule of Corrective Actions

Attached is a copy of the schedule of corrective actions for the Category B deficiencies identified during the Waterford III Steam Electric Station offsite radiological emergency preparedness exercise conducted on February 8, 1984. The Federal Emergency Management Agency exercise report was previously forwarded to you on July 25, 1984.

Based on the results of the exercise and the schedule of corrective actions to the deficiencies, offsite radiological emergency preparedness at the Waterford III Steam Electric Station is adequate to provide reasonable assurance that the public health and safety can be protected in the event of an accident at the site.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 287-0200.

Attachment
as Stated

IE 35

TABLE 2 Remedial Actions for the Waterford III Exercise

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
CATEGORY "A" DEFICIENCIES: NONE CATEGORY "B" DEFICIENCIES:				
State EOC (Louisiana Office of Emergency Preparedness)				
1. Description: The LOEP staff assigned to the communication equipment were not familiar with operation of the equipment (NUREG-0654, II, A.2.a, F). Recommendation: Provide additional training in the use of communications equipment for the staff prior to exercise or actual crisis.	(S) Additional training utilizing communications equipment will be provided as part of an ongoing training program. In addition, this capability is regularly tested in regular communications drills.	Complete 10/84	FEMA accepts the ongoing training concept, however, will evaluate in next exercise.	
Emergency Operating Facility (EOF)				
2. Description: The communications system is greatly weakened by two deficiencies: heavy dependence upon commercial telephones and the	(S) Communication with LOEP via Civil Defense radio is sufficient, since the facilities at LNED are a backup to the primary dose assessment capability at the EOF. The decision-maker for LNED will be located at the state EOC.	Complete 10/84		

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
Emergency Operating Facility (Cont'd)				
relay required in using the Civil Defense radio as a backup (NUREG-0654, II, F). Recommendation: Supplement the Civil Defense radio with at least a dedicated land line or with direct radio communicating capability with LNED.	In addition, a single-side band radio is available from LOEP to provide direct voice & hard-copy capability from the EOF to LNED headquarters. The telephone situation should be improved upon completion of the permanent EOF, scheduled for December, 1984.	12/84	FEMA will re-evaluate in next exercise.	
3. Description: Protective actions were not always consistent with PACs nor implemented according to the plans (NUREG-0654, II, J.10, J.9). Recommendations: The Utility, LNED, and local parishes should agree on what protective actions are to be recommended and implemented. Party implementing protective actions should keep all other appropriate agencies informed.	(S)&(L) Actions implemented by local government were always at least as stringent as recommended by the state & utility. Parishes reserve the right to implement more conservative protective actions as deemed necessary; St.Charles & St. John the Baptist are committed to informing the state, utility and each other of the actions being implemented.	Complete 10/84	FEMA accepts this proposal as completed. However, will look at again during next exercise.	

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
Field Monitoring Operations				
4. Description: The Sodium Iodide (NaI) detector was hand held over the cartridge which could result in unnecessary exposure (NUREG-0654, II, I.8, II.10). Recommendation: Consider devising a jig to hold the detector in place.	(S) A device to hold the detector & provide reproducible geometry is available and will be utilized in the future.	Complete 10/84	FEMA accepts that this deficiency has been corrected, but will look at again in next exercise.	10/84
5. Description: Proper procedures for taking vegetation samples were not used and shears for collecting samples were not provided (NUREG-0654, II, I.8). Recommendation: Provide teams with shears for collecting samples and give additional training in sampling.	(S) Shears & other necessary sampling equipment have been added to the emergency kits. Due to time constraints of the exercise scenario, the complete sampling & measurement procedure was not followed at each sampling/measurement location. However, on-going training is provided to ensure that field teams remain familiar with sampling procedures.	Complete 10/84 Complete 10/84	FEMA accepts that this deficiency has been corrected, but will look at again in next exercise.	10/84

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
Louisiana Nuclear Energy Division (LNED)				
6. Description: LNED relied entirely upon telephones for communication. Civil Defense radio provides backup but there were technical problems with it. Also, radio communications with the EOF depends upon cumbersome relay through LOEP (NUREG-0654, II, F). Recommendation: Expand radio communication capability so that LNED Headquarters can communicate directly with their personnel at the EOF.	(S) See 2. Also, the decision-maker for LNED is assigned to the state EOC.	Complete 10/84	FEMA accepts this as being complete, but will look at again in next exercise.	
Louisiana Office of Emergency Preparedness Media Center				
7. Description News releases were being made simultaneously from several sources; i.e., parishes and				

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
Louisiana Office of Emergency Preparedness Media Center (Cont'd)				
the LOEP. This presents a high potential for confusing and contradicting reports (NUREG-0654, II, G.3.b, G.4.b). Recommendation: Consider establishing a joint media center for staffing by LP&L, LOEP, LNED, and parish personnel and use it as a clearinghouse for official press releases. This should not interfere with the parish authority to issue public information or instructions regarding protective actions for the populations and jurisdictions for which they are responsible. The necessity of providing access to media information near the site is imperative.	(S)(L) Consideration has been given a joint media center; however, parishes feel strongly that their media center should be located at their respective EOC to ensure timeliness of press releases. In addition, Telex & facsimile machines are available at each location where press releases may take place to assure coordination of information.	9/84	FEMA understands the Strong Home Rule in Louisiana; however, still feel that a J.I.C. would eliminate possible conflicting press releases and coordination of the press releases.	9/84

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
St. Charles Parish				
8. Description: Alert notification and emergency status changes were announced based on preliminary, advance notice from the utility of an upcoming event (NUREG-0654, II, D.4, E.5,6, App. 3). Recommendation: Although the problem resulted from premature (not via hotline) release of information by the utility, situations or emergency status changes should not be declared until verified via the hotline or other alternate verification avenues. The capability for alerting the public within fifteen minutes clearly exists, but the procedural problem should be corrected by review of the plan and implementation of correct procedures.	(L) It should be noted that no formal actions were taken by either parish based on advance notices of pending emergency status changes. Thus, these advance notices served to provide the parish EOC staffs time to anticipate forthcoming status changes & respond accordingly at that time. Procedures will be changed to reflect the notification process.	11/84	FEMA accepts that the procedures have been changed but will need to review the procedures before final approval can be given on this deficiency.	

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
St. Charles Parish (Cont'd)				
9. Description: The radiological field team coordinator was not sure of the maximum exposure allowable without authorization or when the emergency workers should be ordered out of the area (NUREG-0654, II, K.3.a). Recommendation: Provide additional training in radiological exposure control.	(L) The type of questioning caused the radiological officer to appear to lack understanding of radiological exposure limits. Discussions since the exercise have resolved this item; in addition, refresher training will be provided to the radiological officer along with all other emergency workers.	2/85	FEMA will re-evaluate at next exercise. Also, would like a letter showing dates of refresher training.	
St John the Baptist Parish				
10. Description: Alert notification and emergency status changes were announced based on preliminary, advance notice from the utility of an upcoming event (NUREG-0654, II, D.4, E.5, E.6, App. 3). Recommendation: Although the problem resulted from	(L) Same as 8.	11/84	Same as "8".	

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
St John the Baptist Parish (Cont'd)				
premature (not via hotline) release of information by the utility, situations or emergency status changes should not be declared until verified via the hotline or other alternate verification avenues. The capability for alerting the public within 15 minutes clearly exists but the procedural problem should be corrected by review of the requirements of the plan and implementation of correct procedures.				
11. Description: Exercise objectives and scenario provided for demonstration of capability of reentry and recovery operations. Although this was addressed by the reading of Annex N, Parish Plan, no feedback was received from response	(L) Discussions on re-entry/ recovery operations took place among the St. John the Baptist EOC staff for approximately 20 minutes. In addition, federal guidance on re-entry & recovery is still not available.	9/84	FEMA agrees that discussion was held by the Director but he received no feed back from staff. Also, we agree that additional guidance is needed from the Federal Government; however, our evaluators state only partial credit should be given on this objective. FEMA will re-evaluate this objective	@ a future exercise

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
St. John the Baptist Parish (Con't)				
organizations and no discussion was held which would substantiate that the objective had been met (NUREG-0654, II, M.1). Recommendation: Future exercise should provide for a more complete demonstration of the recovery and reentry operations capability.				
Avondale Fire Department Decontamination Center				
12. Description: The vehicle was not surveyed for contamination and contaminated and non-contaminated individuals were not separated (NUREG-0654, II, K.5.a,b). Recommendation: Survey all vehicles carrying known contaminated individuals and erect a temporary	(L) Provisions will be made for separation of contaminated & non-contaminated individuals. Additional training will be provided to assure that all vehicles carrying contaminated individuals will be surveyed.	10/84 12/84	FEMA accepts the dates that it will be accomplished. However, will observe again when tested.	10/84 12/84

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
Avondale Fire Department Decontamination Center				
barrier to separate contaminated areas from others. Provide additional training in decontamination procedures.	Same as 12.		"Same as 12".	
West Jefferson Hospital				
13. Description: One patient was not surveyed for contamination upon arrival at the hospital (NUREG-0654, II, L.1). Recommendation: All patients suspected of contamination should be surveyed before entering the hospital.				
14. Description: Ambulance personnel did not have dosimeters (NUREG-0654, II, K.3.a, O.3, L.4). Recommendation: Provide all ambulance crew members with appropriate dosimeters.	Dosimeters are available for all emergency workers, including ambulance personnel. Training will be provided to assure that these individuals have proper radiation monitoring devices.	12/84	FEMA accepts that dosimeters are now available for ambulance personnel. However, will check again at next exercise.	

TABLE 2 (Cont'd)

Deficiencies and FEMA/RAC Recommendation for Corrective Actions	State (S) and Local (L) Proposed Corrective Actions	Proposed Completion Date	FEMA Evaluation of State or Local Corrective Actions and Determination of Adequacy or Inadequacy	Actual Completion Date
East Baton Rouge Parish				
15. Description: The two fire officials (radiological monitoring officers for relocatees) did not exhibit sufficient knowledge of monitoring and decontamination procedures (NUREG-0654, II, J.12). Recommendation: Training should be provided to EOC staff on monitoring and decontamination procedures.	(L) Training was provided to radiological monitors in September & October, 1984 & additional drills will be conducted to assure an adequate knowledge of radiological monitoring procedures.	12/84	FEMA accepts that training has and will be provided. Will evaluate again when tested in exercise.	12/84

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Docket No. 50-528

13. ABSTRACT (200 words or less)

Supplement 10 to the Safety Evaluation Report for the application filed by Louisiana Power & Light Company for a license to operate the Waterford Steam Electric Station, Unit 3 (Docket No. 50-382), located in St. Charles Parish, Louisiana, has been prepared by the Office of Nuclear Reactor Regulation of the U.S. Nuclear Regulatory Commission. The purpose of this supplement is to update the Safety Evaluation Report by providing the staff's evaluation of information submitted by the licensee since the Safety Evaluation Report and its nine previous supplements were issued.

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