



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 34 TO

FACILITY OPERATING LICENSE NO. NPF-38

LOUISIANA POWER AND LIGHT COMPANY

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

1.0 INTRODUCTION

By application dated December 10, 1987, Louisiana Power and Light Company (LP&L or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-38) for Waterford Steam Electric Station, Unit 3. The proposed changes would revise Technical Specification 3.5.2, "ECCS subsystems - Tavg Greater than 350°F" and Technical Specification 3.5.3, "ECCS Subsystems - Tavg Less than 350°F" by adding a note to the Applicability section of both Technical Specifications to indicate that two Emergency Core Cooling System (ECCS) subsystems are required to be operable when Reactor Coolant System (RCS) average temperature is equal to or greater than 500°F.

In addition, the proposed change would also revise the title of the Technical Specifications such that it conforms to typical nomenclature. By letter dated March 24, 1988, the licensee further modified the Basis section to address the above changes.

2.0 DISCUSSION

The changes proposed by the licensee would revise Technical Specification 3.5.2 and 3.5.3 such that a note would be added to the Mode 3 applicability statement that will require both ECCS subsystems to be operable any time the RCS average temperature is equal to or greater than 500°F, regardless of the pressurizer pressure.

Also, the licensee would change the title of the Technical Specification subsections to reflect mode of operation rather than average coolant temperature.

3.0 EVALUATION

Currently Technical Specification 3.5.2 requires two independent ECCS subsystems to be operable when the reactor is in Modes 1, 2, and 3; however, the requirements of this Technical Specification in Mode 3 are applicable only if the pressurizer pressure is equal to or greater than 1750 psia. Technical Specification 3.5.3 currently requires one ECCS subsystem to be operable if the reactor is in Modes 3 and 4 with a requirement that the pressurizer pressure is less than 1750 psia in Mode 3. The

proposed change to both Technical Specifications are similar in that a note will be added to the Mode 3 applicability statement that will require both ECCS subsystems to be operable any time the RCS average temperature is equal to or greater than 500°F. The intent of these Specifications is to ensure there will be sufficient emergency core cooling capability available in the event of a loss of coolant accident (LOCA) coincident with a single failure that results in the loss of one ECCS subsystem. The Waterford 3 Cycle 2 safety analysis has shown that borated water from the High Pressure Safety Injection (HPSI) System is required to prevent the core from becoming critical during an uncontrolled RCS cooldown (i.e., a steam line break) from greater than 500°F. Therefore, the licensee must ensure that at least one train of the HPSI system is available to mitigate the consequences of a postulated steam line break accident initiated from an RCS average temperature of 500°F or greater. The proposed change will accomplish this by requiring two ECCS subsystems to be operable whenever the average RCS temperature is equal to or greater than 500°F. Therefore, even if one ECCS subsystem is assumed to fail, one train of HPSI will be available to inject borated water into the RCS during a steam line break.

The staff concludes that the proposed changes to Technical Specifications 3.5.2 and 3.5.3 constitute an additional restriction on plant operation to increase the margin of safety, and are, therefore, acceptable.

In addition to the above, the proposed change will also revise the title of Technical Specifications 3.5.2 and 3.5.3. The current title describes the Technical Specification in terms of average coolant temperature. It is standard practice to refer to plant conditions in terms of operating Modes rather than average coolant temperature. Therefore, the proposed change would revise the titles such that they conform to Technical Specification nomenclature and are acceptable.

4.0 CONTACT WITH STATE OFFICIAL

The NRC staff has advised the Administrator, Nuclear Energy Division, Office of Environmental Affairs, State of Louisiana of the proposed determination of no significant hazards consideration. No comments were received.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

Based upon its evaluation of the proposed changes to the Waterford 3 Technical Specifications, the staff has concluded that: there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. The staff, therefore, concludes that the proposed changes are acceptable, and are hereby incorporated into the Waterford 3 Technical Specifications.

Dated: March 30, 1988

Principal Contributor: J. Wilson



**Idaho
National
Engineering
Laboratory**

*Managed
by the U.S.
Department
of Energy*



Work performed under
DOE Contract
No. DE-AC07-84OR21400

EGG-NTA-7446
April 1987

INFORMAL REPORT

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-
RELATED COMPONENTS: WATERFORD-3

R. VanderBeek

Prepared for the
U.S. NUCLEAR REGULATORY COMMISSION

8706050267 19 PP

DISCLAIMER

This book was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights. References herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

TECHNICAL EVALUATION REPORT

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:
WATERFORD-3

Docket No. 50-382

R. VanderBeek

Published April 1987

Idaho National Engineering Laboratory
EG&G Idaho, Inc.
Idaho Falls, Idaho 83415

Prepared for the
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Under DOE Contract No. DE-AC07-76ID01570
FIN No. D6001

ABSTRACT

This EG&G Idaho, Inc. report provides a review of the submittals for the Waterford Steam Electric Station, Unit No. 3 for conformance to Generic Letter 83-28, Item 2.2.1.

Docket No. 50-382

TAC No. 57705

FOREWORD

This report is supplied as part of the program for evaluating licensee/applicant conformance to Generic Letter 83-28 "Required Actions Based on Generic Implications of Salem ATWS Events." This work is being conducted for the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Division of PWR Licensing-A, by EG&G Idaho, Inc.

The U.S. Nuclear Regulatory Commission funded this work under the authorization B&R 20-19-10-11-3, FIN No. D6001.

Docket No. 50-382

TAC No. 57705

CONTENTS

ABSTRACT	11
FOREWORD	111
1. INTRODUCTION	1
2. REVIEW CONTENT AND FORMAT	2
3. ITEM 2.2.1 - PROGRAM	3
3.1 Guideline	3
3.2 Evaluation	3
3.3 Conclusion	4
4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA	5
4.1 Guideline	5
4.2 Evaluation	5
4.3 Conclusion	5
5. ITEM 2.2.1.2 - INFORMATION HANDLING SYSTEM	6
5.1 Guideline	6
5.2 Evaluation	6
5.3 Conclusion	6
6. ITEM 2.2.1.3 - USE OF EQUIPMENT CLASSIFICATION LISTING	7
6.1 Guideline	7
6.2 Evaluation	7
6.3 Conclusion	7
7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS	8
7.1 Guideline	8
7.2 Evaluation	8
7.3 Conclusion	8

8.	ITEM 2.2.1.5 - DESIGN VERIFICATION AND PROCUREMENT	9
8.1	Guideline	9
8.2	Evaluation	9
8.3	Conclusion	9
9.	ITEM 2.2.1.6 - "IMPORTANT TO SAFETY" COMPONENTS	10
9.1	Guideline	10
10.	CONCLUSION	11
11.	REFERENCES	12

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:
WATERFORD-3

1. INTRODUCTION

On February 25, 1983, both of the scram circuit breakers at Unit 1 of the Salem Nuclear Power Plant failed to open upon an automatic reactor trip signal from the reactor protection system. This incident was terminated manually by the operator about 30 seconds after the initiation of the automatic trip signal. The failure of the circuit breakers was determined to be related to the sticking of the undervoltage trip attachment. Prior to this incident, on February 22, 1983, at Unit 1 of the Salem Nuclear Power Plant, an automatic trip signal was generated based on steam generator low-low level during plant startup. In this case, the reactor was tripped manually by the operator almost coincidentally with the automatic trip.

Following these incidents, on February 28, 1983, the NRC Executive Director for Operations (EDO), directed the staff to investigate and report on the generic implications of these occurrences at Unit 1 of the Salem Nuclear Power Plant. The results of the staff's inquiry into the generic implications of the Salem unit incidents are reported in NUREG-1000, "Generic Implications of the ATWS Events at the Salem Nuclear Power Plant." As a result of this investigation, the Commission (NRC) requested (by Generic Letter 83-28 dated July 8, 1983¹) all licensees of operating reactors, applicants for an operating license, and holders of construction permits to respond to generic issues raised by the analyses of these two ATWS events.

This report is an evaluation of the responses submitted by Louisiana Power and Light for Waterford Steam Electric Station, Unit No. 3 for Item 2.2.1 of Generic Letter 83-28. The actual documents reviewed as a part of this evaluation are listed in the references at the end of this report.

2. REVIEW CONTENT AND FORMAT

Item 2.2.1 of Generic Letter 83-28 requests the licensee/applicant to submit, for staff review, a description of their programs for classification of their safety-related equipment includes supporting information, in considerable detail, as indicated in the guidelines preceding the evaluation of each sub-item.

As previously stated, each of the six sub-items of Item 2.2.1 is evaluated in a separate section in which the guideline is presented; an evaluation of the licensee's/applicant's response is made; and conclusions about its acceptability are drawn.

3. ITEM 2.2.1 - PROGRAM

3.1 Guideline

Licenses and applicants should confirm that an equipment classification program exists which provides assurance that all safety-related components are designated as safety-related on all plant documents, drawings and procedures and in the information handling system that is used in accomplishing safety-related activities, such as work orders for repair, maintenance and surveillance testing and orders for replacement parts. Licensee and applicant responses which address the features of this program are evaluated in the remainder of this report.

3.2 Evaluation

The licensee for Waterford Steam Electric Station, Unit No. 3 provided a response to Generic Letter 83-28 with submittals dated November 11, 1983² and November 15, 1985.³ These submittals included information that describes their safety-related equipment classification program. In the review of the licensee's response to this item, it was assumed that the information and documentation supporting this program is available for audit upon request.

The licensee has provided a description of the equipment classification program for the identification of safety-related activities for repair, maintenance, and procurement. However, the response does not directly confirm that all components designated as safety-related in the MEL/Q-list are also properly designated on plant documents, procedures and in the information handling systems used for safety-related activities. However, the licensee's response to Items 2.2.1.2 and 2.2.1.3 indicate that the documents used to control safety-related activities from start to finish are appropriately marked as safety-related. This is discussed in Sections 5.2 and 6.2. We consider this to be acceptable.

3.3 Conclusion

We have reviewed the licensee's information and, in general, find that the licensee's response is adequate.

4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA

4.1 Guideline

The applicant or licensee should confirm that their program used for equipment classification includes criteria used for identifying components as safety-related.

4.2 Evaluation

The licensee's response states that safety-related structures, systems, and components are identified as safety-related based on the criteria specified in the project management procedure PMP-321, "Determination of Safety/Q-Level Components for the MEL/Q-List". The procedure was not included in the response; however, review of Section 3.2 of the FSAR identified these criteria.

4.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

5. ITEM 2.2.1.2 - INFORMATION HANDLING SYSTEM

5.1 Guideline

The licensee or applicant should confirm that the program for equipment classification includes an information handling system that is used to identify safety-related components. The response should confirm that this information handling system includes a list of safety-related equipment and that procedures exist which govern its development and validation.

5.2 Evaluation

The licensee's response states that the Q-list is maintained current by a dedicated staff whose activities are governed by project management procedure PMP-321. This procedure is being updated to include requirements for Q-List maintenance activities. The Q-List information for components in the plant is entered in the data base and validated in accordance with project management procedure PMP-320.

5.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

6. ITEM 2.2.1.3 - USE OF EQUIPMENT CLASSIFICATION LISTING

6.1 Guideline

The licensee's or applicant's description should confirm that their program for equipment classification includes criteria and procedures which govern how station personnel use the equipment classification information handling system to determine that an activity is safety-related and what procedures for maintenance, surveillance, parts replacement and other activities defined in the introduction to 10 CFR 50, Appendix B, apply to safety-related components.

6.2 Evaluation

The licensee's response identifies the use of the Q-list, and Administrative procedures in the determination of safety-related activities in the areas of parts replacement, storage, maintenance, modification, testing, and surveillance. Collectively, these documents contain the controls to ensure that safety-related equipment is identified and handled in an appropriate manner.

6.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS

7.1 Guidelines

The applicant or licensee should confirm that the management controls used to verify that the procedures for preparation, validation and routine utilization of the information handling system have been followed.

7.2 Evaluation

The licensee's response states that the management controls established for activities related to the development, validation and maintenance of the Q-List are covered by procedures and instructions which are prepared, reviewed, and approved in accordance with project management procedure PMP-001, "Preparation and Revision of Project Management Procedure/Instructions". The management controls established for activities related to the routine utilization of the Q-List are governed by Administrative procedure UNT-1-002 and QP-5-001, "Instructions, Procedures and Drawings."

7.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

8. ITEM 2.2.1.5 DESIGN VERIFICATION AND PROCUREMENT

8.1 Guideline

The applicant's or licensee's submittal should document that past usage demonstrates that appropriate design verification and qualification testing is specified for the procurement of safety-related components and parts. The specifications should include qualification testing for expected safety service conditions and provide support for the applicant's/licensee's receipt of testing documentation to support the limits of life recommended by the supplier. If such documentation is not available, confirmation that the present program meets these requirements should be provided.

8.2 Evaluation

The licensee's response states that specifications imposed upon the vendor are referenced on the Purchase Order Requisition based on either previous orders for the same equipment or specifications supplied by Engineering. Standard Clauses in UNT-8-001 are used to ensure that technical and quality requirements are specified consistently for safety and quality related equipment orders.

8.3 Conclusion

The licensee's response for this item is considered to be complete and is acceptable.

9. ITEM 2.2.1.6 - "IMPORTANT TO SAFETY" COMPONENTS

9.1 Guideline

The Generic Letter 83-28 states that the licensee's equipment classification program should include: (in addition to the safety-related components) a broader class of components designated as "Important to Safety." However, since the Generic Letter does not require the applicant/licensee to furnish this information as part of their response, review of this item will not be performed.

10. CONCLUSION

Based on our review of the licensee's response to the specific requirements of Item 2.2.1, we find that the information provided by the licensee to resolve the concerns of Items 2.2.1 of Generic Letter 83-28 is acceptable. Item 2.2.1.6 was not reviewed as noted in Section 9 of this report.

11. REFERENCES

1. NRC Letter, D. G. Eisenhut to all Licensees of Operating Reactors, Applicants for Operating License, and Holders of Construction Permits, "Required Actions Based on Generic Implication of Salem ATWS Events (Generic Letter 83-28)," July 8, 1983.
2. Louisiana Power and Light letter, K. W. Cook to D. G. Eisenhut, NRC, November 4, 1983, W3P83-3911, 4-3-A20.02.02, 3-A1.01.04, L.02.
3. Louisiana Power and Light letter, K. W. Cook to G. W. Knighton, NRC, November 15, 1985, W3P85-3158, A4.05, NQA.

NRC FORM 338 12-841 NRCM 1102 3201 3202 SEE INSTRUCTIONS ON THE REVERSE		U.S. NUCLEAR REGULATORY COMMISSION		1 REPORT NUMBER (Assigned by TIDC add Vol. No. if any) EGG-NTA-7446	
2 TITLE AND SUBTITLE CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1-- EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS: WATERFORD-3			3 LEAVE BLANK		
5 AUTHOR(S) R. VanderBeek			4 DATE REPORT COMPLETED MONTH: April YEAR: 1987		
			6 DATE REPORT ISSUED MONTH: April YEAR: 1987		
7 PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) EG&G Idaho, Inc. P. O. Box 1625 Idaho Falls, ID 83415			8 PROJECT/TASK/WORK UNIT NUMBER 9 PIN OR GRANT NUMBER D6001		
10 SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include Zip Code) Division of PWR Licensing - A Office of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Washington, DC 20555			11a TYPE OF REPORT Final 11b PERIOD COVERED (Include dates)		
12 SUPPLEMENTARY NOTES					
13 ABSTRACT (200 words or less) This EG&G Idaho, Inc., report provides a review of the submittals from Louisiana Power and Light regarding conformance to Generic Letter 83-28, Item 2.2.1 for the Waterford Steam Electric Station, Unit No. 3.					
14 DOCUMENT ANALYSIS - KEYWORDS DESCRIPTORS 15 IDENTIFIERS/OPEN ENDED TERMS				15 AVAILABILITY STATEMENT Unlimited Distribution	
				16 SECURITY CLASSIFICATION (This page) Unclassified (This report) Unclassified	
				17 NUMBER OF PAGES	
				18 PRICE	