



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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ENCLOSURE

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REGARDING GENERIC LETTER 83-28, ITEM 2.2.1, EQUIPMENT CLASSIFICATION
PROGRAMS FOR ALL SAFETY-RELATED COMPONENTS
CAROLINA POWER & LIGHT COMPANY
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261

1.0 INTRODUCTION

Generic Letter 83-28 was issued by the NRC on July 8, 1983 to indicate actions to be taken by the licensees and applicants based on the generic implications of the Salem ATWS events. Item 2.2.1 of that letter states that the licensees and applicants shall describe in considerable detail their program for classifying all safety-related components other than RTS components as safety-related on plant documents and in information handling systems that are used to control plant activities that may affect these components. Specifically the licensee's submittal was required to contain information describing: (1) the criteria used to identify these components as safety-related; (2) the information handling system which identifies the components as safety-related; (3) the manner in which station personnel use this information handling system to control activities affecting these components; (4) management controls that are used to verify that the information handling system is prepared, maintained, validated, and used in accordance with approved procedures; and (5) design verification and qualification testing requirements that are part of the specifications for procurement of safety-related components.

The licensee for H. B. Robinson Steam Electric Plant, Unit No. 2 submitted a response to Generic Letter 83-28, Item 2.2.1, in a submittal dated November 7, 1983. This response was evaluated by our contractor, Idaho National Engineering Laboratory, in Report No. EGG-NTA-7390 (attached). The NRR staff's evaluation follows.

2.0 EVALUATIONS AND CONCLUSIONS

In the following sections the licensee's responses to the program and each of five subitems are individually evaluated against guidelines developed by the staff and conclusions are drawn regarding their individual and collective acceptability.

A. Identification Criteria

Guideline: The licensee's response should describe the criteria used to identify safety-related equipment and components. (Item 2.2.1.1)

Evaluation:

The licensee's submittal identified and provided criteria for determining what plant equipment is safety-related. The licensee has incorporated these identification criteria into the Plant Operating Manual Q-List Procedure.

B. Information Handling System

Guideline: The licensee's response should confirm that the equipment classification program includes an information handling system that is used to identify safety-related equipment and components. Approved procedures which govern its development, maintenance, and validation should exist. (Item 2.2.1.2)

Evaluation:

The licensee's submittal identifies the Q-List as the information handling system that identifies safety-related equipment. The Plant Operating Manual defines the development, validation and control of the Q-List and states that Plant Engineering is responsible for determining what equipment is to be on the Q-List.

Conclusion:

We find the licensee's submittal meets the staff requirements for this item and is acceptable.

C. Use of Information Handling System:

Guidelines: The licensee's response should confirm that their equipment classification program includes criteria and procedures which govern the use of the information handling system to determine that an activity is safety-related and the safety-related procedures for maintenance, surveillance, parts replacement and other activities defined in the introduction to 10 CFR Part 50, Appendix B, are applied to safety-related components. (Item 2.2.1.3)

Evaluation:

The licensee's submittal states that all maintenance, surveillance and procurement activities use the Q-List to determine when activity is safety-related. All required documents require referring to the Q-List as part of the review and approval process.

Conclusion:

We find that the licensee's submittal meets the staff requirements and is acceptable.

D. Management Controls

Guideline: The licensee/applicant should confirm that management controls used to verify that the procedures for preparation, validation, and routine utilization of the information handling system have been and are being followed. (Item 2.2.1.4)

Evaluation:

The licensee states that the Plant Operating Manual requires the proper management reviews of changes to the Q-List. QA surveillances and audits are also conducted to verify the proper utilization of the Q-List.

Conclusion:

We find the licensee's submittal meets the staff requirements for this Item and is acceptable.

E. Design Verification and Procurement

Guideline: The licensee's/applicant's response 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 licensee's receipt of testing documentation which supports 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. (Item 2.2.1.5)

Evaluation:

The licensee states that specifications for safety-related equipment include qualification testing and environmental analysis. Procurement procedures insure that the procurement specifications include the expected service conditions, design verification, qualification testing and that documentation supports this information.

Conclusion:

The licensee's submittal meets the staff requirements for this Item and is acceptable.

F. "Important To Safety" Comments

Guideline: Generic Letter 83-28 states that licensee/applicant equipment classification programs 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 licensee/applicant to furnish this information as part of their response, staff review of this sub-item was not performed. (Item 2.2.1.6)

G. Program

Guideline:

Licensees/applicants should confirm that an equipment classification program exists which provides assurance that all safety-related components are designated as safety-related on plant documents such as drawings, procedures, system descriptions, test and maintenance instructions, operating procedures, and information handling systems so that personnel who perform activities that affect such safety-related components are aware that they are working on safety-related components and are guided by safety-related procedures and constraints. (Item 2.2.1)

Evaluation:

The licensee's submittal described the licensee's program for identifying and classifying safety-related equipment which meets the staff requirements as indicated in the preceding sub-item evaluations.

Conclusion:

We conclude that the licensee's program addresses the staff concerns regarding equipment classification and is acceptable.

BIBLIOGRAPHY

1. NRC Letter, D. G. Eisenhut to all Licensees of Operating Reactors, Applicants for Operating License, and Holders of Construction Permits, "Required Actions Bases on Generic Implications of Salem ATWS Events (Generic Letter 83-28), "July 8, 1983.
2. Carolina Power & Light Company letter, A. B. Cutter to D. G. Eisenhut, NRC, "Generic Implications of Salem ATWS Events," November 7, 1983, Serial: LAP-83-517.

TECHNICAL EVALUATION REPORT

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:
H. B. ROBINSON-2

Docket No. 50-261

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ABSTRACT

This EG&G Idaho, Inc., report provides a review of the submittal from the H. B. Robinson Steam Electric Plant, Unit No. 2, regarding conformance to Generic Letter 83-28, Item 2.2.1.

Docket No. 50-261

TAC No. 53710

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., NRR and I&E Support Branch

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

H. B. ROBINSON-2

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 NRC 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 the generic issues raised by the analyses of these two ATWS events.

This report is an evaluation of the response submitted by the Carolina Power and Light Company, the licensee for Unit No. 2 of the H. B. Robinson Steam Electric Plant, for Item 2.2.1 of Generic Letter 83-28. The document reviewed as a part of this evaluation is listed in the references at the end of this report.

2. REVIEW CONTENT AND FORM

Item 2.2.1 of Generic Letter 83-28 requests the licensee or applicant to submit, for the staff review, a description of their programs for safety-related equipment classification including supporting information, in considerable detail, as indicated in the guideline section for each sub-item within this report.

As previously indicated, 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 the programs of the licensee or applicant for safety-related equipment classification are drawn.

3. ITEM 2.2.1 - PROGRAM

3.1 Guideline

Licensees 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 Unit No. 2 of the H. B. Robinson Steam Electric Plant responded to these requirements with a submittal dated November 7, 1983.² This submittal includes information that describes their existing 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. We have reviewed this information and note the following general concerns.

The licensee states that they are using the Q-list as the information handling system referred to. The licensee has confirmed that the Q-list is consulted to identify all safety-related components, activities and procedures prior to work being done on safety-related systems.

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 identified and provided the criteria for determining what plant items are safety-related. The licensee states that Q-list items are those structures, systems and components that are primarily designed to prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The definition is further refined by eight qualifying statements. The complete criteria are incorporated into the Plant Operating Manual (POM) Q-List Procedure.

4.3 Conclusion

We find that the criteria used in the identification of safety-related components meet the requirements of Item 2.2.1.1 and are 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 submittal identifies the Q-list as the information handling system that identifies safety-related components. The licensee states that the Plant Operating Manual (POM) defines the development, validation and control of the Q-list and states that Plant Engineering is responsible for determining the systems and components that are to be included on the Q-list. The POM also guides in the changes to and in the addition of new equipment to the Q-list. These procedures are described.

5.3 Conclusion

We find that the information contained in the licensee's submittals is sufficient for us to conclude that the licensee's information handling system for equipment classification meets the guideline requirements. Therefore, the information provided by the licensee for this item 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 states all maintenance, surveillance and procurement activities use the Q-list to determine when the activity is safety-related. Reviews and approvals of forms required to perform these tasks refer to the Q-list for equipment classification as part of the review process. Thus, the Q-list is consulted before any maintenance, testing, design changes, engineering support, setpoint changes or special tests or studies are initiated.

6.3 Conclusion

We find that the licensee's description of plant administrative controls and procedures meets the requirements of this item and is, therefore, acceptable.

7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS

7.1 Guideline

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 states that the controls described in response to Section 2.2.1.2 (i.e., the Plant Operating Manual) assure the proper additions and changes to the Q-list. Quality assurance surveillance and audits are used to verify the routine utilization of the Q-list.

7.3 Conclusion

We find that the management controls used by the licensee assure that the information handling system is maintained, is current and is used as intended. Therefore, the licensee's response for this item 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 submittal states that specifications for safety-related components include qualification testing and analysis for environmental conditions. The Q-list is used to identify a part as safety-related. Procurement procedures insure that the procurement specifications for safety-related parts and components include the expected service conditions, design verification, qualification testing and documentation that supports this information. Additionally, the licensee has a program for approval of suppliers of safety-related components and parts.

8.3 Conclusions

The licensee's response for this item is considered to be complete. The information provided addresses the concerns of this item and is acceptable.

9. ITEM 2.2.1.6 - "IMPORTANT TO SAFETY" COMPONENTS

9.1 Guideline

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 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 2.2.1.1, 2.2.1.2, 2.2.1.3, 2.2.1.4 and 2.2.1.5 meet the requirements of Generic Letter 83-28 and is acceptable. Item 2.2.1.6 was not reviewed as noted in Section 9.1.

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 Implications of Salem ATWS Events (Generic Letter 83-28)," July 8, 1983.
2. Carolina Power and Light Company letter, A. B. Cutter to D. G. Eisenhut, NRC, "Generic Implications of Salem ATWS Events," November 7, 1983, Serial: LAP-83-517.