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TECHNICAL EVALUATION REPORT

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

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Docket No. 50-263

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ABSTRACT

This EG&G Idaho, Inc., report provides a review of the submittals for the Monticello Nuclear Generating Plant for conformance to Generic Letter 83-28, Item 2.2.1.

Docket No. 50-263
TAC No. 53691

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 Engineering and System Technology, by EG&G Idaho, Inc., NRC Regulatory Technical Assistance Unit.

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CONTENTS

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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, 1983[1]) 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 responses submitted by the Northern States Power Company, the licensee for the Monticello Nuclear Generating Plant, for Item 2.2.1 of Generic Letter 83-28. The documents reviewed as a part of this evaluation are listed in the References (Section 11) at the end of the report.

2. REVIEW CONTENT AND FORMAT

Item 2.2.1 of Generic Letter 83-28 requests the licensee to submit a detailed description of their programs for safety-related equipment classification for staff review. Detailed supporting information should also be included in the description, as indicated in the guideline section for each item within this report.

As previously indicated, each of the six items of Item 2.2.1 is evaluated in a separate section in which the guideline is presented; an evaluation of the licensee's response is made; and conclusions about the programs of the licensee for safety-related equipment classification are drawn.

3. ITEM 2.2.1 - PROGRAM

3.1 Guideline

Licensees should confirm that an equipment classification program is in place which will provide assurance that all safety-related components are designated as safety-related on plant documentation. The program should provide assurance that the equipment classification information handling system is used so that activities that may affect safety-related components are designated safety-related. With this use of the information handling system personnel are aware that they are working on safety-related components and are directed to and are guided by safety-related procedures and constraints. Licensee responses that address the features of this program are evaluated in the remainder of this report.

3.2 Evaluation

The licensee for the Monticello Nuclear Generating Plant responded to these requirements with submittals dated November 12, 1983[2] and June 9, 1988.[3] 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 states that the Q-list and the Q-list extension (color-coded process and instrument drawings, i.e., P&IDs) comprise the information handling system. The licensee states that this information handling system includes all safety-related components. Work request authorization (WRA) documents require the notation of the safety-related status of the work. Procedures also indicate whether they are connected with safety-related components.

3.3 Conclusion

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

4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA

4.1 Guideline

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

4.2 Evaluation

The licensee's response gives the criteria for identifying safety-related equipment and components. A component is considered safety-related if it is required to either function or to maintain the pressure integrity in the system of which it is a part in order for the system to perform the system safety function.

4.3 Conclusion

The licensee's response to this item is considered to be complete. Therefore, the licensee's response for this item is acceptable.

5. ITEM 2.2.1.2 - INFORMATION HANDLING SYSTEM

5.1 Guideline

The licensee 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 to govern its development and validation.

5.2 Evaluation

The licensee states that the Q-list and the Q-list extension comprise the information handling system. The licensee states that this information handling system covers all safety-related components. The licensee has a Q-list extension committee that is chartered with controlling the Q-list and the Q-list extension. The committee reviews and concurs on the safety-classification of structures, systems, and components; verifies compliance with Regulatory Guide 1.26 and other industry documents; prepares documentation on the safety classification determination; recommends development of the color-coded P&IDs; reviews requests for revisions to the Q-list and Q-list extensions; and resolves any conflicting safety-related designation that may occur.

5.3 Conclusion

We conclude that the licensee's description of the functioning of the Q-list extension committee includes the oversight of the development and validation of the Q-list and the Q-list extension. Therefore, the licensee's response to this item is acceptable.

6. ITEM 2.2.1.3 - USE OF EQUIPMENT CLASSIFICATION LISTING

6.1 Guideline

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

6.2 Evaluation

The licensee states that procedures and work request authorizations are classified as safety-related or nonsafety-related. Plant operations committee and quality assurance department staff review the classification to determine the acceptability of the classification according to procedures. Further, the licensee states that quality assurance directives require all activities related to Q-list and Q-list extension structures, systems, and components to be safety-related. Therefore, these activities are controlled by the provisions of the quality assurance program.

6.3 Conclusion

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

7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS

7.1 Guideline

The licensee should briefly describe the management controls that are used to verify that the procedures for preparation, validation, and routine use of the information handling system have been, and are being, followed.

7.2 Evaluation

The licensee's submittal describes the managerial controls that are applied to assure that the equipment classification information handling system has been properly prepared, that its contents have been validated, that it is being maintained current, and that it is being used to determine equipment classification as intended. These controls include audits by the Power Supply Quality Assurance Department and independent reviews by the Operations Committee and by the shift supervisor.

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 licensee's submittals should document that past usage demonstrates that appropriate design verification and qualification testing are specified for the procurement of safety-related components and parts. The specification should include qualification testing for the expected safety-service conditions and should provide support for the 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 Reference 2 response addresses ANSI N45.2.13-1976, "Quality Assurance Receipt Inspection and Qualification Testing." The Reference 3 response refers to Northern States Power Company procedure N1AWI 6.1.5, "Requisition Contents." This procedure specifically requires the verification of design capability (environmental qualification) and evidence of testing (that qualifies the components and parts for service under the expected conditions over the life of the component or part) be specified as part of purchase requisitions.

8.3 Conclusion

We conclude that the licensee has addressed the concerns of this item. Therefore, the licensee's response for this item 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, this item will not be reviewed.

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 these concerns meets 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. Letter, NRC (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. Letter, Northern States Power Company (D. Musolf) to NRC, "Generic Implications of Salem ATWS Events (Generic Letter 83-28)," November 14, 1983.

3. Letter, Northern States Power Company (D. Musolf) to NRC, "Additional Information Related to Generic Letter 83-28," June 9, 1988.

4. Letter, Northern States Power Company (D. Musolf) to NRC, "Response to NRC Request for Further Information on NSP Response to Generic Letter 83-28, Items 2.2.1 and 2.2.2," March 31, 1987, Docket Nos. 50-282 and 50-306.

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13. ABSTRACT (200 words or less)

This EG&G Idaho, Inc., report provides a review of the submittals from the Monticello Nuclear Generating Plant regarding conformance to Generic Letter 83-28, Item 2.2.1.

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