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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: FITZPATRICK

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EG&G Idaho

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Docket No. 50-333

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SUMMARY

This EG&G Idaho, Inc., report provides a review of the submittals from the James A. FitzPatrick Nuclear Power Plant for conformance to Generic Letter 83-28, Item 2.2.1. Item 2.2.1 of Generic Letter 83-28 requires licensees and applicants to submit a detailed description of their programs for safety-related equipment classification for staff review. It also describes guidelines that the licensee's or applicant's programs should encompass. This review concludes that the licensee does comply with all the requirements of this item.

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PREFACE

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., Regulatory and Technical Assistance Unit.

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1. INTRODUCTION

On February 25, 1983, both of the scram circuit breakers at Unit 1 of the Salem Generating Station 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 Generating Station, 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 Generating Station. The results of the staff's inquiry into the generic implications of the Salem Unit 1 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]) that all licensees of operating reactors, applicants for an operating license, and holders of construction permits 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 New York Power Authority, the licensee for the James A. FitzPatrick Nuclear Power 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 this report.

2. REVIEW CONTENT AND FORMAT

Item 2.2.1 of Generic Letter 83-28 requests the licensee to submit a 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 that will provide assurance that 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. By using the information handling system, personnel are made 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 James A. FitzPatrick Nuclear Power Plant responded to these requirements with submittals dated November 9, 1983,[2] June 29, 1984,[3] July 2, 1985,[4] December 31, 1985,[5] March 20, 1987,[6] and October 16, 1989. These submittals describe the 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.

3.3 Conclusion

We have reviewed the licensee's submittals and find that the licensee's program is acceptable, as indicated in the following sections.

4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA

4.1 Guideline

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

4.2 Evaluation

The licensee's responses provides the criteria used for the identification of safety-related components. The licensee states that these criteria are used in accordance with engineering design procedures. The licensee defines as safety-related those structures, systems, and components that are necessary to assure a) the integrity of the reactor coolant system pressure boundary, b) the capability to shut down the reactor and to maintain it in a safe shutdown condition, and c) the capability to prevent or to mitigate the consequences of accidents that could result in potential offsite exposures. The criteria encompass the criteria given in the footnote to Section 2.2.1 of the generic letter.

4.3 Conclusion

The licensee's responses to this item are complete and address the staff's concern. Therefore, we find the licensee's responses for this item 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's submittals identify the Master Equipment List (MEL) as the information handling system that lists safety-related structures, systems, components, and parts. This computer database is accessible at plant and headquarter computer terminals. The licensee described the controls used in the development and validation of the MEL; the process by which new safety-related items are entered; how changes in classification of listed items are made; how listed items are verified; and how unauthorized changes are prevented. FitzPatrick plant procedure WACP-10.1.18, "Control of the Master Equipment List," provides these controls and processes. The licensee is also replacing two associated procedures, EDP-12 and WACP 10.1.6, with MCM-6A, which lists the specific system safety functions, and MCM-3, which controls modifications and component changes. The licensee indicates that a single work group is responsible for the actual updating and verification of the MEL database information.

5.3 Conclusion

The licensee's responses describe a system that meets the recommendations of this item. Therefore, we find the licensee's responses for this item acceptable.

6. ITEM 2.2.1.3 - USE OF THE 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.

6.2 Evaluation

The licensee has described plant administrative controls and procedures that govern maintenance, modification, and procurement activities. These controls require personnel to consult the MEL to determine the safety class of the equipment prior to initiating any maintenance, testing, design changes, engineering support, setpoint changes, or special tests or studies.

6.3 Conclusion

We find that the licensee's description of plant administrative controls and procedures meets the requirements of this item. Therefore, we find the licensee's responses for this item 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 utilization of the information handling system have been, and are being, followed.

7.2 Evaluation

The licensee's responses state that the managerial controls associated with the plant procedures that control activities affecting quality assurance classification; that list equipment; and that verify the preparation, validation, and routine use of the information handling system are followed. Quality assurance reviews and audits are specified as assurance that the programs and their implementation are correct.

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, we find the licensee's responses for this item 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 expected safety service conditions and 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 should be provided that the present program meets these requirements.

8.2 Evaluation

The licensee's submittals state that Engineering Design Procedure (EDP)-16 satisfies the requirements of this guideline. This procedure has checkoffs for environmental and seismic qualification being needed. This procedure is being replaced with Work Activity Control Procedure WACP 10.1.24, "Procedure for the Review of Procurement Documents for the Specification of Technical, Quality Assurance, and Documentation Requirements." The licensee states that this procedure requires the consultation of the MEL to determine the safety (QA) classification of the item being procured. This procedure has controls on specifying the design, technical, operational, quality assurance, documentation, and test requirements on procurement documents.

8.3 Conclusion

We conclude that the licensee has addressed the concerns of this item. Therefore, we find the licensee's responses for this item 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, as noted in Section 9.1, was not reviewed.

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, New York Power Authority (J. P. Bayne) to NRC, "Response to Generic Implications of Salem ATWS Events (Generic Letter 83-28)," November 9, 1983, JPN-83-92.

3. Letter, New York Power Authority (J. P. Bayne) to NRC, "Required Actions Based on Generic Implications of Salem ATWS Events," June 29, 1984, JPN-84-42.

4. Letter, New York Power Authority (J. C. Brons) to NRC, "Additional Information Regarding Generic Letter 83-28, "Required Actions Based on Generic Implications of Salem ATWS Events," July 2, 1985, JPN-85-55

5. Letter, New York Power Authority (J. C. Brons) to NRC (D. R. Muller), "Component Quality Assurance Category List," December 31, 1985, JPN-85-93.

6. Letter, New York Power Authority (J. C. Brons) to NRC, "Component Quality Assurance Category List," March 20, 1987, JPN-87-015.

7. Letter, New York Power Authority (J. C. Brons) to NRC, "Additional Information Regarding Item 2.2 (Part 1) of Generic Letter 83-28, Equipment Classification Program," October 16, 1989, JPN-89-066.

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10. SUPPLEMENTARY NOTES

11. ABSTRACT (200 words or less)

This EG&G Idaho, Inc., report provides a review of the submittals from the James A. Fitzpatrick Nuclear Power Plant for conformance to Generic Letter 83-28, Item 2.2.1. Item 2.2.1 of Generic Letter 83-28 requires licensees and applicants to submit a detailed description of their programs for safety-related equipment classification for staff review. It also describes guidelines that the licensee's or applicant's programs should encompass. The review concludes that the licensee complies with the requirements of this item.

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