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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: INDIAN POINT-3

Alan C. Udy



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

Docket No. 50-286

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ABSTRACT

This EG&G Idaho, Inc., report provides a review of the submittals from the Indian Point 3 Nuclear Power Plant regarding conformance to Generic Letter 83-28, Item 2.2.1.

Docket No. 50-286

TAC No. 53681

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., Electrical, Instrumentation and Control Systems Evaluation Unit.

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CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:
INDIAN POINT-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 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 responses submitted by the New York Power Authority, the licensee for the Indian Point 3 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 at the end of this report.

2. REVIEW CONTENT AND FORMAT

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 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/applicant's response is made; and conclusions about the licensee's or applicant's program for safety-related equipment classification are drawn.

3. ITEM 2.2.1 - PROGRAM

3.1 Guideline

Licenseses and applicants should confirm that an equipment classification program exists that provides assurance that all safety-related components are designated as safety-related on plant documentation and in the information handling system that controls safety-related activities. The purpose of this program is to ensure that personnel performing activities that affect safety-related components are aware that they are working on safety-related components and are guided by safety-related procedures and constraints. Features of this program are evaluated in the remainder of this report.

3.2 Evaluation

The licensee for the Indian Point 3 Nuclear Power Plant responded to these requirements with submittals dated November 7, 1983,² May 17, 1985,³ August 25, 1986,⁴ and May 18, 1988⁵. These submittals describe the licensee's 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 states that they have implemented a Master Equipment List (MEL) that is composed of two portions: the Reactor Protection System (RPS) component list and the Q-list (for listing all other safety-related components). Both portions of the MEL are said to be done, with the RPS component list complete and verified, and the Q-list complete and in the process of being verified. Verification is accomplished in accordance with written procedures. Use of the MEL is called out in the appropriate procedures for the RPS components. Use of the Q-list portion of the MEL will be called out in the appropriate procedures after the validation of the Q-list is complete in November 1988.

Administrative procedures require that the safety-related classification of any work order or modification be determined and noted on the work package.

3.3 Conclusion

We have reviewed the licensee's information and find that the licensee's response is adequate in responding to this item and is acceptable.

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 gives the criteria for identifying safety-related equipment and components. A component is considered safety-related if it is required to assure: (a) the integrity of the reactor coolant system pressure boundary, (b) the capability to achieve and maintain a safe shutdown or (c) the capability to prevent or to mitigate the consequences of an accident which could result in potential offsite exposures.

4.3 Conclusion

The licensee's response to this item is considered complete. Therefore, the applicant's response for this item 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 to govern its development and validation.

5.2 Evaluation

The licensee's submittal (Reference 2) identifies the original documents, such as the Final Safety Analysis Report, the quality assurance program and technical and vendor manuals, instructions drawings and equipment specifications, as the information handling system. These were developed during the plant design and received reviews and approvals in way of validation. Reference 3 states that the licensee is making a major effort to develop an official, single, consistent and unambiguous listing of safety-related components. This effort was described in Reference 4 and confirmed in Reference 5. The MEL is maintained by an onsite project group. It is a computerized component records management system that was developed on a personal computer. When fully functional, it will be a part of a multi-user computer network.

5.3 Conclusion

The licensee's response to this item is considered complete. Therefore, the licensee's response for the 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 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 administrative procedures either require or will require consultation of the MEL to determine if any of the above activities are safety-related. The administrative procedures are being rewritten to require consultation of the Q-list for these activities when the MEL is fully functional and verified.

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 applicant or 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 states that their management controls utilized to satisfy this item consists of management review and concurrence, PORC or SRC review and concurrence, and by quality assurance audits and surveillance.

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 licensee's submittal states that design verification for safety-related components are addressed by either of the following.

1. The original procurement specifications
2. Administrative procedure AP-25.2

AP-25.2 allows substitution of safety-related components if properly evaluated by the engineering staff and design verification (by calculations, testing or analysis) occurs. The licensee states that this requires qualification testing to be specified if needed.

8.3 Conclusion

The licensee's response for this item is considered to be complete. The information provided addresses the concerns of this item. Therefore, the licensee's response to this 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. 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. Letter, New York Power Authority (J. P. Bayne) to NRC (D. G. Eisenhut), "Required Actions Based on Generic Implications of Salem ATWS Events (Generic Letter 83-28, Dated July 8, 1983)," November 7, 1983, IPN-83-91.
3. Letter, New York Power Authority (J. C. Brons) to NRC (S. A. Varga), "Additional Information Regarding Generic Letter 83-28, Required Actions Based on Generic Implications of the Salem ATWS Events," May 17, 1985, IPN-85-26.
4. Letter, New York Power Authority (J. C. Brons) to NRC, "Equipment Classification and Vendor Interface," August 25, 1986.
5. Letter, New York Power Authority (J. C. Brons) to NRC, "GL83-28: Item 2.2.1 (TAC #M53681), Implementation of Master Equipment List," May 18, 1988, IPN-88-019.

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This EG&G Idaho, Inc., report provides a review of the submittals from the Indian Point-3 Nuclear Power Plant regarding conformance to Generic Letter 83-28, Item 2.2.1.

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