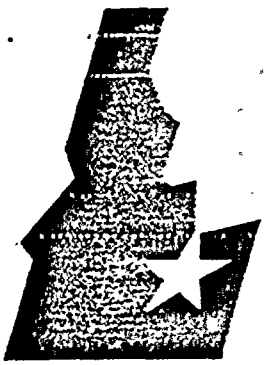

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INFORMAL REPORT

TECHNICAL EVALUATION REPORT

CONFORMANCE TO GENERIC LETTER 83-28 ITEM 2.2.1--EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS: DIABLO CANYON-1 AND -2

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EG&G Idaho

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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: DIABLO CANYON-1 AND -2

Docket Nos. 50-275 and 50-323

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ABSTRACT

This EG&G Idaho, Inc., report provides a review of the submittal from Unit Nos. 1 and 2 of the Diablo Canyon Power Plant for conformance to Generic Letter 83-28, Item 2.2.1.

Docket Nos. 50-275/50-323
TAC Nos. 53666/61718

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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Docket Nos. 50-275/50-323
TAC Nos. 53666/61718

CONTENTS

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1-- EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS: DIABLO CANYON-1 AND -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 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 response submitted by the Pacific Gas and Electric Company, the licensee for the Diablo Canyon Power 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 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 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 the Diablo Canyon Power Plant responded to these requirements with a submittal dated June 30, 1987.[2] This submittal includes 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's hard copy Q-list is the information handling system referred to. It is a controlled document. A Plant Information Management System (PIMS) is being developed and validated from the Q-list, piping and instrument drawings and schematic diagrams. This data base is presently used to supplement the Q-list and to generate work orders. The PIMS is used to report problems. The safety-related status of the affected system is determined and tracked. Work orders are generated as needed by the work planning center. The organization that performs the work determines the procedures to be used after the safety-related status is determined.

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 criteria for the identification of systems, structures and components as safety-related is contained in the Nuclear Engineering Manual Procedure (NEMP) 3.1, "Classification of Structures, Systems, and Components." The licensee states that these criteria are used currently to identify safety-related components in accordance with quality assurance procedures.

The licensee's definition is also in the Q-list. It identifies as safety-related those structures, systems and components that assure (following a design basis event), (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shut down the reactor and to maintain it in a safe shutdown condition, and (3) the capability to prevent or to mitigate consequential offsite exposures.

4.3 Conclusion

We find that the licensee has confirmed that they have identified the criteria used in the identification of safety-related components, thus meeting the requirements of Item 2.2.1.1.

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 submittals identify the hard copy Q-list as the information handling system that lists safety-related structures, systems, components and parts. It was developed in accordance with NEMP 3.1. The PIMS is a computerized data base that is eventually to replace the Q-list. Currently the two systems co-exist with the Q-list as the governing document. The licensee briefly described the methods used for the development of these systems. The Quality Control and Quality Support departments are validating the data base. The licensee states that approved procedures are followed to modify either the Q-list or the PIMS.

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 describes the use of the PIMS and the Q-list in facilitating and tracking the safety-related status of the above work activities. The licensee has shown how procedures to be used in the above activities are identified as safety-related. NPG Procedure 5.6 is the controlling procedure for classifying replacement parts by use of the Q-list. NEMP 3.12, "Spare and Replacement Parts Evaluation," is followed if replacement parts cannot meet the original design requirements.

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's response states that their Quality Assurance (QA) Manual serves as the method of managerial control and meets the requirements of 10 CFR 50, Appendix B. The QA Manual is the basis for the Nuclear Engineering Manual which provides the procedural controls over equipment classification. Quality Assurance approves these procedures and provides regular audits to ensure that they are used properly.

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

Procurement of safety-related components and parts is controlled by NPG Procedures 5.2 through 5.12, NEMP 3.12, 4.1, and 4.2. These procedures control safety classification, technical requirements, receipt inspection, documentation review, the supplier's quality assurance program, required testing, and documentation of testing.

8.3 Conclusion

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. Letter, Pacific Gas and Electric Company (J. D. Shiffer) to NRC, "Generic Letter 83-28, Items 2.2.1 and 2.2.2," June 30, 1987, DCL-87-156.

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This EG&G Idaho, Inc., report provides a review of the submittals from the Pacific Gas and Electric Company regarding conformance to Generic Letter 83-28, Item 2.2.1 for Unit Nos. 1 and 2 of the Diablo Canyon Power Plant.

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