

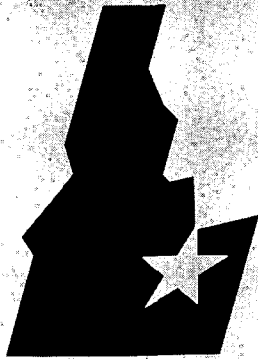
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INFORMAL REPORT

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

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**Idaho
National
Engineering
Laboratory**

*Managed
by the U.S.
Department
of Energy*



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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:
SURRY-1 AND -2

Docket Nos. 50-280 and 50-281

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ABSTRACT

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

Docket Nos. 50-280 and 50-281
TAC Nos. 53721 and 53722

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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Docket Nos. 50-280 and 50-281
TAC Nos. 53721 and 53722

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CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:
SURRY-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 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 Virginia Electric and Power Company, the licensee for the Surry Power Station, Unit Nos. 1 and 2 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 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 Surry Power Station, Unit Nos. 1 and 2, responded to these requirements with submittals dated November 4, 1983² and February 8, 1985.³ These submittals include 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 that the licensee's response does not directly confirm that all components designated as safety-related in the equipment listing are also properly designated on documents, procedures, and in information handling systems used for safety-related activities. However, the licensee's response to Items 2.2.1.2 and 2.2.1.3 indicate that the documents used to control safety-related activities from start to finish are appropriately marked as safety-related. This is discussed in Sections 5.2 and 6.2. We consider this to be acceptable.

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 criteria for identifying components as safety-related should be presented. This should include a description of the means for handling sub-components or parts, as well as procedures for initiating the identification of components as safety-related or non-safety-related if no previous classification existed.

4.2 Evaluation

The licensee's response states the criteria utilized for classification of safety-related structures, systems, and components are consistent with the definition and requirements stated in 10 CFR 100, Appendix A, Paragraph III.E. We find this acceptable.

4.3 Conclusion

We find that the criteria used in the identification of safety-related components meets 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 response states that the information handling system consists of Station Administrative Procedure ADM/73 which contains a listing of safety-related structures, systems, and components. The listing contained in the procedure does not provide a detailed listing of every component of safety-related systems but provides a general breakdown by system and major component parts. Subcomponents of safety-related systems are considered to be safety-related. The procedure containing the list is a controlled station document and requires the review and approval the Station Nuclear Safety and Operating Committee (SNSOC). Where questions arise during classification of specific structures, systems, or components, requests are forwarded to the station engineering staff for resolution. Appropriate reviews are required prior to the removal from or addition to the list.

The licensee indicates that development of a new and more complete listing of safety-related components is in planning but no specific date for completion has been set.

5.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

6. ITEM 2.2.1.3--USE OF EQUIPMENT CLASSIFICATION LISTING

6.1 Guideline

The licensee's description should show how station personnel use the equipment classification information handling system to determine:

(a) when an activity is safety-related, and (b) what procedures are to be used for maintenance work, routine surveillance testing, accomplishment of design changes, and performance of special tests or studies. We should be able to gain confidence from our review that there will be no confusion about when an activity is safety-related.

6.2 Evaluation

The licensee's response indicates that responsible station personnel use the equipment listing and corporate procedures to designate the safety classification of the equipment and the procedures required to perform the work. The safety classification and procedures are indicated on the work activity forms used for all repair and modification work performed at the plant. If anyone within the plant is unsure of the classification of a component, he is required to check with the station engineering staff.

6.3 Conclusion

We consider the licensee's response to this item to be complete and is 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 the Quality Assurance Department performs audits of activities covered by the plant instructions and procedures. Thus, the audit program provides verification of the routine utilization of the information handling system.

7.3 Conclusion

The licensee's response to this item is considered to be complete and is acceptable.

8. ITEM 2.2.1.5--DESIGN VERIFICATION AND PROCUREMENT

8.1 Guideline

The licensee's submittals shall show that the specifications for procurement of replacement safety-related components and parts require that verification of design capability and evidence of testing that qualifies the components and parts for service under the expected conditions over the service life specified by the supplier is included.

8.2 Evaluation

The licensee's response states that the guideline and policy for procurement of equipment for use at each station is contained in Section 4 and Section 7 of the Nuclear Power Station Quality Assurance Manual (NPSQAM) and related station administrative procedures. Direction is provided regarding review of purchase documents, requirements for standard tests or inspections and supporting Quality Assurance documentation, requirements for review when "commercial grade" materials or components or substitute materials or components are used in lieu of those originally specified. General guidance is also provided regarding the use of "Engineering Specifications" for new materials or components added during plan design changes.

Normal replacement parts and maintenance items are procured through purchase requisitions which contain the required information referenced in the NPSQAM and station administrative procedures. The information and detail is included in the purchase document and are normally standard nuclear industry requirements. Special items may be procured using formal specification documents and the specifications include unique requirements as necessary. Specification guidelines include such considerations as environmentally and testing conditions.

Material and equipment for plant modifications are procured through methods similar to those described above. The same governing documents

apply to this procurement cycle. The difference is primarily in the area of approval for monetary commitments and expenditures.

8.3 Conclusion

We consider the licensee's response to be complete 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 or applicant'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 or applicant 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 Item 2.2.1 meets the requirements of Generic Letter 83-28 and is acceptable. Item 2.2.1.6 was not reviewed as noted in Section 9 of this report.

11. REFERENCES

1. NRC Letter, D. G. Eisenhower 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. Virginia Electric and Power Company letter, W. L. Stewart to H. R. Denton, NRC, November 4, 1983, Serial Number 617.
3. Virginia Electric and Power Company letter, W. L. Stewart to H. R. Denton, NRC, February 8, 1985, Serial Number 85-063.

BIBLIOGRAPHIC DATA SHEET

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SEE INSTRUCTIONS ON THE REVERSE

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

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