

TECHNICAL EVALUATION REPORT

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

Docket Nos. 50-266 and 50-301

R. VanderBeek

Published April 1988

Idaho National Engineering Laboratory  
EG&G Idaho, Inc.  
Idaho Falls, Idaho 83415

Prepared for the  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
Under DOE Contract No. DE-AC07-761001570  
FIN No. D6001

111

# ABSTRACT

This EG&G Idaho, Inc., report documents the review of the submittals from Point Beach Nuclear Plant, Unit Nos. 1 and 2 for conformance to Generic Letter 83-28, Item 2.2.1.

Docket Nos. 50-266 and 50-301  
TAC Nos. 53703 and 53704

## 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 was 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.

The U.S. Nuclear Regulatory Commission funded this work under the authorization B&R 20-19-10-11-3, FIN No. 6001.

Docket Nos. 50-266 and 50-301

TAC Nos. 53703 and 53704

## CONTENTS

ABSTRACT .....	11
FOREWORD .....	111
1. INTRODUCTION .....	1
2. REVIEW CONTENT AND FORMAT .....	2
3. ITEM 2.2.1 - PROGRAM .....	3
3.1 Guideline .....	3
3.2 Evaluation .....	3
3.3 Conclusion .....	3
4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA .....	4
4.1 Guideline .....	4
4.2 Evaluation .....	4
4.3 Conclusion .....	4
5. ITEM 2.2.1.2 - INFORMATION HANDLING SYSTEM .....	5
5.1 Guideline .....	5
5.2 Evaluation .....	5
5.3 Conclusion .....	5
6. ITEM 2.2.1.3 - USE OF EQUIPMENT CLASSIFICATION LISTING .....	6
6.1 Guideline .....	6
6.2 Evaluation .....	6
6.3 Conclusion .....	6
7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS .....	7
7.1 Guideline .....	7
7.2 Evaluation .....	7
7.3 Conclusion .....	7
8. ITEM 2.2.1.5 - DESIGN VERIFICATION AND PROCUREMENT .....	8
8.1 Guideline .....	8
8.2 Evaluation .....	8
8.3 Conclusion .....	8
9. ITEM 2.2.1.6 - "IMPORTANT TO SAFETY" COMPONENTS .....	9
9.1 Guideline .....	9
10. CONCLUSION .....	10
11. REFERENCES .....	11

CONFORMANCE TO GENERIC LETTER 83-28 ITEM 2.2.1--EQUIPMENT  
CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:  
POINT BEACH-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 start-up. 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<sup>1</sup>) all licensees of operating reactors, applicants for an operating license, and holders of construction permits to respond to generic issues raised by the analyses of these two ATWS events.

This report is an evaluation of the responses submitted by Wisconsin Electric Power Company for Point Beach Nuclear Plant, Unit Nos. 1 and 2 for Item 2.2.1 of Generic Letter 83-28. The documents reviewed as 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/applicant to submit, for 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 stated, 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

Licensees 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 Point Beach Nuclear Plant, Unit Nos. 1 and 2, provided responses to Generic Letter 83-28 on November 7, 1983<sup>2</sup>, May 10, 1985,<sup>3</sup> and March 27, 1987.<sup>4</sup> These submittals included 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.

#### 3.3 Conclusion

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

#### 4. ITEM 2.2.1.1 - IDENTIFICATION CRITERIA

##### 4.1 Guideline

The applicant or 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 states that the criteria for determining which plant items are safety-related are contained within the Nuclear Power Department Quality Assurance Policy Manual and are similar to the criteria listed within Section 2.2 of Generic Letter 83-28. The response did not provide these criteria.

##### 4.3 Conclusion

The licensee's response for this item is considered to be complete and 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 Nuclear Power Department Quality Assurance (QA) Policy manual delineates how equipment is classified. Appendix B of the manual consists of general lists of systems that are classified as QA. Appendices C through I further describe or list systems and/or equipment which have special QA applications.

### 5.3 Conclusion

The licensee's response to this item is considered to be complete and 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's response states that station personnel use the information handling system as described in procedures contained within the Operating Point Beach Nuclear Plant Administrative Control Policies and Procedures Manual and other documents, such as the Nuclear Power Department Quality Assurance Procedures Manual. The majority of these procedures cover one or more aspects of the application of 10 CFR 50 Appendix B criteria. The specific procedures were not included in the response.

### 6.3 Conclusion

The licensee's response to this item is considered to be complete and 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's response states that a program of QA audits and surveillances, in addition to normal supervisory involvement, provides sufficient management control.

### 7.3 Conclusion

The licensee's response to this item is considered to be complete and 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 are specified for the procurement of safety-related components and parts. The specifications should include qualification testing for expected safety service conditions and should 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

The licensee's response states that the requirements for the procurement of safety-related equipment are contained in procedures which contain guidance for the assurance that the new or replacement equipment continues to maintain the parameters established for the initial qualification of the equipment. The requirements for the procurement of new equipment are governed by the plant modification request procedure. Where necessary, these procedures require that qualification testing be performed for expected safety service conditions. This modification request procedure, as well as the QA procedures, provides for the procurement and receipt of required qualification documentation prior to the release of components into service.

The control mechanisms for an operating plant are the ongoing assurance methods housed in the QA program. Modifications and the possible impact on structures and mechanical and electrical systems, as well as extensions or changes to the boundaries for criteria (including the QA controls), are reviewed in accordance with the modification request procedure, which is part of the QA program.

### 8.3 Conclusion

The licensee's response to this item is considered to be complete and 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, 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, Equipment Classification Program for All Other Safety-Related Components, we find that the information provided by the licensee to resolve the concerns of Item 2.2.1 of Generic Letter 83-28 is acceptable.

Item 2.2.1.6 was not reviewed by the staff as noted in Section 9 of this report.

## 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, Wisconsin Electric Power Company (C. W. Fay) to NRC, (H. R. Denton), November 7, 1983.
3. Letter, Wisconsin Electric Power Company (C. W. Fay) to NRC, (H. R. Denton), May 10, 1985.
4. Letter, Wisconsin Electric Power Company (C. W. Fay) to NRC, March 27, 1987.

NRC FORM 328 (2-84) NRCM 1102, 3201, 3202 <b>BIBLIOGRAPHIC DATA SHEET</b> SEE INSTRUCTIONS ON THE REVERSE		U.S. NUCLEAR REGULATORY COMMISSION 1. REPORT NUMBER (Assigned by NRC, add Vol. No., if any) <b>EGG-NTA-7391</b>	
2. TITLE AND SUBTITLE <b>CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--          EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED          COMPONENTS: POINT BEACH-1 AND -2</b>		3. LEAVE BLANK	
4. AUTHOR(S) <b>R. VanderBeek</b>		5. DATE REPORT COMPLETED MONTH: <b>April</b> YEAR: <b>1988</b>	
6. PERFORMING ORGANIZATION NAME AND MAILING ADDRESS (Include 2 or 3 codes) <b>EG&amp;G Idaho, Inc.          P.O. Box 1625          Idaho Falls, ID 83415</b>		7. DATE REPORT ISSUED MONTH: <b>April</b> YEAR: <b>1988</b>	
8. SPONSORING ORGANIZATION NAME AND MAILING ADDRESS (Include 2 or 3 codes) <b>Division of Engineering and Systems Technology          Office of Nuclear Reactor Regulation          U.S. Nuclear Regulatory Commission          Washington, DC 20555</b>		9. PROJECT/TASK/WORK UNIT NUMBER <b>D6001</b>	
10. TYPE OF REPORT <b>Technical Evaluation Report</b>		11. PERIOD COVERED (Indicate dates)	
12. SUPPLEMENTARY NOTES			
13. ABSTRACT (200 words or less) <p style="text-align: center;">This EG&amp;G Idaho, Inc., report provides a reievew of the submittal from the Wisconsin Electric Power Company regarding conformance to Generic Letter 83-28, Item 2.2.1 for Point Beach-1 and -2.</p>			
14. DOCUMENT ANALYSIS & KEY-WORD DESCRIPTORS IDENTIFIERS/OPEN ENDED TERMS		15. AVAILABILITY STATEMENT <b>Unlimited Distribution</b>	
		16. SECURITY CLASSIFICATION (This paper) <b>Unclassified</b> (This report) <b>Unclassified</b>	
		17. NUMBER OF PAGES	
		18. PRICE	