

TECHNICAL EVALUATION REPORT

CONFORMANCE TO GENERIC LETTER 83-28, ITEM 2.2.1--  
EQUIPMENT CLASSIFICATION FOR ALL OTHER SAFETY-RELATED COMPONENTS:  
THREE MILE ISLAND-1

Docket No. 50-289

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#### ABSTRACT

This EG&G Idaho, Inc. report provides a review of the submittals for the Three Mile Island Nuclear Station, Unit No. 1 for conformance to Generic Letter 83-28, Item 2.2.1.

Docket No. 50-289

TAC No. 53724

## 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.

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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 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 response submitted by General Public Utilities (GPU) Nuclear Corporation for the Three Mile Island Nuclear Station, Unit No. 1 for Item 2.2.1 of Generic Letter 83-28. The actual 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/applicant to submit, for staff review, a description of their programs for classification of their safety-related equipment includes supporting information, in considerable detail, as indicated in the guidelines preceding the evaluation of each sub-item.

As previously stated, each of the six sub-items of Item 2.2.1 is evaluated in a separate section in which the guideline is presented, evaluation of the licensee's/applicant's response is made; and conclusions about its acceptability are drawn.

### 3. ITEM 2.2.1 - PROGRAM

#### 3.1 Guideline

Licensee and applicants should confirm that an equipment classification program is in place which will provide assurance that all safety-related components are designated as safety-related on plant documentation such as procedures, system descriptions, test and maintenance instructions and in information handling systems so that personnel performing activities that affect such safety-related components are aware that they are working on safety-related components and are guided by safety-related procedures and constraints. 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 Three Mile Island Nuclear Station, Unit No. 1 (TMI-1) provided a response to Generic Letter 83-28 on November 8, 1983,<sup>2</sup> August 5, 1985<sup>3</sup> and May 29, 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.

The licensee states that documents such as procedures, system descriptions, instructions and control systems are classified commensurate with the activity performed. The activities are currently labeled with the appropriate classification, namely "Important to Safety" or "Not Important to Safety" until conversion to using the classification labels "Nuclear Safety Related" and "Regulatory Required" is completed.

#### 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 licensee's response states that the criteria for identifying components as safety-related within systems are described in General Public Utilities Nuclear (GPUN) Technical Functions Procedure EP-011 "Quality Classification List". The quality classification of systems, structures and major components are listed in Technical Functions Standard ES-011 "Methodology and Content of GPUN Quality Classification List". These procedures provide the means for maintaining the quality classification of the Quality Classification List (QCL). The criteria and procedures were not included in the response.

##### 4.3 Conclusion

The licensee's response for this item is considered to be complete and 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 which govern its development and validation.

### 5.2 Evaluation

The licensee's response states that GPUN Technical Functions Procedure ES-011 "Methodology and Control of GPUN Quality Classification List" establishes the method for using the Quality Classification List (QCL) to assign quality classifications to GPUN station structures, systems, components, and parts. It also assigns responsibilities for interpreting and maintaining the procedure and the contained QCL must be used by all GPUN personnel to specify the quality classification.

### 5.3 Conclusion

The licensee's response for 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 or applicant's description should confirm that their program for equipment classification includes criteria and procedures governing the use of 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's response states that the GPUN Operational Quality Assurance Plan requires that safety-related activities be prescribed by documented procedures and that these activities be accomplished in accordance with the procedures. In addition, measures are established to control and coordinate the approval and issuance of procedures which prescribe safety-related activities. These procedures include operating and special orders, operating procedures, test procedures, equipment and material control procedures, maintenance or modifications procedures and refueling procedures. These procedures are available on-site for review.

### 6.3 Conclusion

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



## 7. ITEM 2.2.1.4 - MANAGEMENT CONTROLS

### 7.1 Guidelines

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 provides a detailed description of the management controls and application as found in the approved GPUN Operational Quality Assurance Plan. The quality assurance program consists of a three-level approach to assure satisfactory and complete implementation of the program commensurate with its requirements for safety and performance. Each level described the activities, the responsible organizations responsible for performing the activities, the documentation required, the establishment of procedures and instructions, etc. Emphasis is also placed on lines of internal and external communications for obtaining the necessary management direction.

### 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 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

The licensee's response provided a description of the activities associated with the procurement of safety-related equipment and identified the associated control procedures.

### 8.3 Conclusion

The licensee's response for this item is considered 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 Items 2.2.1 of Generic Letter 83-28 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. Eisenhut to all Licensees of Operating Reactors, Applicants for Operating License, and Holders of Construction Permits, "Required Actions Based on Generic Implication of Salem ATWS Events (Generic Letter 83-28)," July 8, 1983.
2. GPU Nuclear Corporation letter, H. D. Hukill to D. G. Eisenhut, NRC, November 8, 1983, (5211-83-330).
3. GPU Nuclear Corporation letter, R. F. Wilson to J. F. Stolz, NRC, August 5, 1985, (5211-85-2132) RFW-0570.
4. GPU Nuclear Corporation letter, H. D. Hukill to NRC, May 29, 1987 (5211-87-2099).

## BIBLIOGRAPHIC DATA SHEET

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SEE INSTRUCTIONS ON THE REVERSE

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