



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

GENERIC LETTER 83-28, ITEM 2.1 (PART 2)

VENDOR INTERFACE PROGRAM (RTS COMPONENTS)

IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 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 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 generic issues raised by the analyses of these two ATWS events.

This report is an evaluation of the response submitted by Iowa Electric Light & Power Company, the licensee for the Duane Arnold Energy Center, for Item 2.1 (Part 2) of Generic Letter 83-28. The actual document reviewed as part of this evaluation is listed in the references at the end of the report.

Item 2.1 (Part 2) requires the licensee to confirm that an interface has been established with the NSSS or with the vendors of each of the components of the Reactor Trip System which includes:

periodic communication between the licensee/applicant and the NSSS or the vendors of each of the components of the Reactor Trip System, and

a system of positive feedback which confirms receipt by the licensee/applicant of transmittals of vendor technical information.

2.0 EVALUATION

The licensee for the Duane Arnold Energy Center responded to the requirements of Item 2.1 (Part 2) with a submittal dated February 29, 1984². The licensee stated in this submittal that General Electric is the NSSS for the Duane Arnold Energy Center and that the RTS is included as part of the General Electric interface program established for this plant. The response also confirms that this interface program includes both periodic communication between General Electric and the licensee and positive feedback from the licensee in the form of signed receipts for technical information transmitted by General Electric.

3.0 CONCLUSION

Based on our review of these responses, we find the licensee's statements confirm that a vendor interface program exists with the NSSS vendor for components that are required for performance of the reactor trip function. This program meets the requirements of Item 2.1 (Part 2) of the Generic Letter 83-28, and is therefore acceptable.

4.0 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. Iowa Electric Light & Power Company letter to NRC, R.W. McGaughy to Harold R. Denton, Director, Office of Nuclear Reactor Regulation, February 29, 1984.



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INFORMAL REPORT

CONFORMANCE TO ITEM 2.1 (PART 2) OF GENERIC
LETTER 83-28, REACTOR TRIP SYSTEM VENDOR INTERFACE,
ARNOLD, BRUNSWICK-1 AND -2

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Prepared for the
U.S. NUCLEAR REGULATORY COMMISSION

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CONFORMANCE TO
ITEM 2.1 (PART 2) OF GENERIC LETTER 83-28
REACTOR TRIP SYSTEM VENDOR INTERFACE
ARNOLD
BRUNSWICK-1 AND -2

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ABSTRACT

This EG&G Idaho, Inc. report provides a review of the submittals for some of the General Electric (GE) nuclear plants for conformance to Generic Letter 83-28, Item 2.1 (Part 2). The report includes the following General Electric plants, and is in partial fulfillment of the following TAC Nos.:

<u>Plant</u>	<u>Docket Number</u>	<u>TAC Number</u>
Arnold	50-331	52835
Brunswick-1	50-325	52823
Brunswick-2	50-324	52824

FOREWORD

This report is provided 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 conducted for the U. S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Division of PWR Licensing-A by EG&G Idaho, Inc.

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CONFORMANCE TO
ITEM 2.1 (PART 2) OF GENERIC LETTER 83-28
REACTOR TRIP SYSTEM VENDOR INTERFACE
ARNOLD
BRUNSWICK-1 AND 2

1. INTROOUCTION

On July 8, 1983, Generic Letter 83-28¹ was issued by D. G. Eisenhut, Director of the Division of Licensing, Office of Nuclear Reactor Regulation, to all licensees of operating reactors, applicants for operating licenses, and holders of construction permits. This letter included required actions based on generic implications of the Salem ATWS events. These requirements have been published in Volume 2 of NUREG-1000, "Generic Implications of ATWS Events at the Salem Nuclear Power Plant."²

This report documents the EG&G Idaho, Inc. review of the submittals of three of the General Electric plants, Arnold and Brunswick-1 and -2, for conformance to Item 2.1 (Part 2) of Generic Letter 83-28. The submittals from the licensees and applicants utilized in these evaluations are referenced in Section 7 of this report.

2. REVIEW REQUIREMENTS

Item 2.1 (Part 2) (Reactor Trip System - Vendor Interface) requires licensees and applicants to establish, implement and maintain a continuing program to ensure that vendor information on Reactor Trip System (RTS) components is complete, current and controlled throughout the life of the plant, and appropriately referenced or incorporated in plant instructions and procedures. The vendor interface program is to include periodic communications with vendors to assure that all applicable information has been received, as well as a system of positive feedback with vendors for mailings containing technical information, e.g., licensee/applicant acknowledgement for receipt of technical information.

That part of the vendor interface program which ensures that vendor information on RTS components, once acquired, is appropriately controlled, referenced and incorporated in plant instructions and procedures, will be evaluated as part of the review of Item 2.2 of the Generic Letter.

Because the Nuclear Steam System Supplier (NSSS) is ordinarily also the supplier of the entire RTS, the NSSS is also the principal source of information on the components of the RTS. This review of the licensee and applicant submittals will:

1. Confirm that the licensee/applicant has identified an interface with either the NSSS or with the vendors of each of the components of the Reactor Trip System.
2. Confirm that the interface identified by licensees/applicants includes periodic communication with the NSSS or with the vendors of each of the components of the Reactor Trip System.
3. Confirm that the interface identified by licensees/applicants includes a system of positive feedback to confirm receipt of transmittals of technical information.

3. GROUP REVIEW RESULTS

The relevant submittals from each of the included reactor plants were reviewed to determine compliance with Item 2.1 (Part 2). First, the submittals from each plant were reviewed to establish that Item 2.1 (Part 2) was specifically addressed. Second, the submittals were evaluated to determine the extent to which each of the plants complies with the staff guidelines for Item 2.1 (Part 2).

4. REVIEW RESULTS FOR ARNOLD

4.1 Evaluation

Iowa Electric Light and Power Company, the licensee for Arnold, provided their response to Item 2.1 (Part 2) of the Generic Letter on February 29, 1984. In that response, the licensee confirms that the NSSS for Arnold is General Electric and that the Reactor Protection System (RPS) for Arnold, which includes those components necessary to trip the reactor, is included as a part of the GE interface program established for the Arnold NSSS.

The GE interface program for the NSSS includes both periodic communication between GE and licensees/applicants and aperiodic communications such as "Service Information Letters" (SILs) containing information and recommendations concerning GE systems, and a system of positive feedback from licensees/applicants in the form of signed receipts for SILs transmitted by GE.

4.2 Conclusion

We find the licensee's confirming statement that Arnold is a participant in the General Electric interface program for the RPS meets the staff position on Item 2.1 (Part 2) of the Generic Letter and is, therefore, acceptable.

5. REVIEW RESULTS FOR BRUNSWICK-1 AND -2

5.1 Evaluation

Carolina Power and Light Company, the licensee for Brunswick-1 and -2, provided their response to Item 2.1 (Part 2) of the Generic Letter on November 7, 1983. In that response, the licensee confirms that the NSSS for Brunswick is General Electric and that the Reactor Protection System (RPS) for Brunswick, which includes those components necessary to trip the reactor, is included as a part of the GE interface program established for the Brunswick NSSS.

The GE interface program for the NSSS includes both periodic communication between GE and licensees/applicants and aperiodic communications such as "Service Information Letters" (SILs) containing information and recommendations concerning GE systems, and a system of positive feedback from licensees/applicants in the form of signed receipts for SILs transmitted by GE.

5.2 Conclusion

We find the licensee's confirming statement that Brunswick is a participant in the General Electric interface program for the RPS meets the staff position on Item 2.1 (Part 2) of the Generic Letter and is, therefore, acceptable.

6. GROUP CONCLUSION

We conclude that the licensee/applicant responses for the listed General Electric plants for Item 4.5.2 of Generic Letter 83-28 are acceptable.

7. 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. Generic Implications of ATWS Events at the Salem Nuclear Power Plant NUREG-1000, Volume 1, April 1983; Volume 2, July 1983.
3. Iowa Electric Light and Power Company letter to NRC, R. W. McGaughy to Harold R. Denton, Director, Office of Nuclear Reactor Regulation, February 29, 1984.
4. Carolina Power and Light letter to NRC, P. W. Howe to D. G. Eisenhut, Director, Division of Licensing, "Generic Implications of Salem ATWS Events," November 7, 1983.