

SAFETY EVALUATION REPORT FOR  
GENERIC LETTER 83-28, ITEM 3.1 - POSTMAINTENANCE  
TESTING VERIFICATION (REACTOR TRIP SYSTEM COMPONENTS)  
ARKANSAS NUCLEAR ONE - UNIT 1  
DOCKET NO: 50-313

I. 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 occurred during the plant startup and the reactor was tripped manually by the operator about 30 seconds after the initiation of the automatic trip signal. The failure of the circuit breakers has been determined to be related to the sticking of the under voltage trip attachment. Prior to this incident, on February 22, 1983, at Unit 1 of the Salem Nuclear 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 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) all licensees of operating reactors, applicants for an operating license, and holders of construction permits to respond to certain generic concerns. These concerns are categorized into four areas: (1) Post-Trip Review, (2) Equipment Classification and Vendor Interface, (3) Postmaintenance Testing, and (4) Reactor Trip System Reliability Improvements.

The third action item, Postmaintenance Testing consists of Action Item 3.1, "Postmaintenance Testing (Reactor Trip System Components)" and Action Item 3.2, "Postmaintenance Testing (All Other Safety-Related Components)." This safety evaluation report (SER) addresses Action Items 3.1.1 and 3.1.2 only.

II. REVIEW GUIDELINES

The following review guidelines were developed after initial evaluation of the various utility responses to item 3.1 of Generic Letter 83-28 and incorporate the best features of these submittals. As such, these review guidelines in effect represent a "good practices" approach to postmaintenance testing verification review. We have reviewed the licensee's response to items 3.1.1 and 3.1.2 against these guidelines:

- A. The licensee or applicant shall submit a statement indicating that he has reviewed plant test procedures, maintenance procedures and Technical Specifications to assure that postmaintenance operability testing of safety-related components in the reactor trip system is required to be conducted.
- B. The licensee or applicant shall submit a statement verifying that vendor recommended test guidance has been reviewed, evaluated, and where appropriate, included in the test and maintenance procedures or the Technical Specifications.

### III. EVALUATION AND CONCLUSION

By letters dated November 4, 1983 and May 27, 1985, the licensee of Arkansas Nuclear One - Unit 1 provided information regarding its post-maintenance testing verification of the reactor trip system components. We have reviewed the licensee's response against the review guidelines as described in Section II. A brief description of the licensee's response and the staff's evaluation of the response against each of the review guidelines is provided below:

- A. The licensee stated that each channel of the Reactor Protection System is tested in accordance with safety-related test procedures that functionally test the safety channels in accordance with the Technical Specifications. Operability testing of the reactor trip system is conducted using the Safety-Related Reactor Protection System Channel Functional Test. A component listing of safety-related reactor trip system components has been developed and a review of maintenance and surveillance procedures did not require any changes. The staff finds this statement acceptable.
- B. The licensee stated that methods of controlling, reviewing, and incorporation of vendor information have been procedurally implemented. The staff finds this statement acceptable.

Based on our review, we conclude that the licensee's response to postmaintenance testing verification of the reactor trip system components for the Arkansas Nuclear One - Unit 1 is acceptable.

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SALP EVALUATION  
ARKANSAS NUCLEAR ONE - UNIT 1  
DOCKET NO.: 50-285  
GENERIC LETTER 83-28, ITEM 3.1, POSTMAINTENANCE TESTING

A. Functional Areas: Licensing Activities - Generic Letter 83-28, Item 3.1, Postmaintenance Testing

1. Management involvement in assuring quality

Rating: N/A

2. Approach to resolution of technical issues from a safety standpoint

Rating: N/A

3. Responsive to NRC initiatives

Based on our review, we find that the licensee is responsive to NRC initiatives.

Rating: Category 2

4. Staffing

Rating N/A

5. Reporting and analysis of reportable events

Rating: N/A

6. Training and qualification effectiveness

Rating: N/A

7. Overall Rating for Licensing Activity Functional Areas: Category 2