

SAFETY EVALUATION BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
CONCERNING
GENERIC LETTER 83-28, ITEM 4.1
REACTOR TRIP SYSTEM RELIABILITY
ARKANSAS NUCLEAR ONE - UNIT 2
ARKANSAS POWER AND LIGHT COMPANY
DOCKET NO: 50-368

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 fourth action item, Reactor Trip System Reliability Improvements, consists of Action Item 4.1, "Reactor Trip System Reliability (Vendor-Related Modifications)," Action Item 4.2, "Reactor Trip System Reliability (Preventative Maintenance and Surveillance Program for Reactor Trip Breakers)," Action Item 4.3, "Reactor Trip System Reliability (Automatic Actuation of Shunt Trip Attachments for Westinghouse and B&W Plants)," Action Item 4.4, "Reactor Trip System Reliability (Improvements in Maintenance and Test Procedures for B&W Plants)" and Action Item 4.5, "Reactor Trip System Reliability (System Functional Testing)." This Safety Evaluation (SE) addresses Action Item 4.1 only.

II. REVIEW GUIDELINES

The following review guidelines were used to evaluate the response from the licensee to item 4.1 of Generic Letter 83-28:

- ° The licensee or applicant shall submit a statement that he has reviewed all vendor-recommended reactor trip breaker modifications and determined that (1) each modification has, in fact, been implemented; or (2) a written evaluation of the technical reasons for not implementing a modification exists.

III. EVALUATION AND CONCLUSION

By letters dated November 5, 1983, and April 23, 1985, and as clarified on December 10, 1985, the licensee of Arkansas Nuclear One - Unit 2 provided information regarding vendor recommended modifications to the reactor trip system. 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 the review guidelines is provided below:

- ° The licensee stated that there have been no vendor-recommended field modifications to the reactor trip breakers from either Combustion Engineering or General Electric. However, since the reactor trip breakers are the same type for both units, a program recommended by the B&W owners group has been implemented to systematically replace the trip shaft and latch roller bearings with bearings lubricated with Mobil 28 lubricant. This modification has been completed for the ANO-2 reactor trip breakers.

Based on our review, we conclude that the licensee's response to vendor recommended modifications to the reactor trip system for Arkansas Nuclear One - Unit 2 is acceptable.

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Dated: