



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

SAFETY EVALUATION FOR POST MAINTENANCE TESTING

GENERIC LETTER 83-28 ITEMS 3.1.1, 3.1.2, 3.2.1 AND 3.2.2

ALL SAFETY-RELATED COMPONENTS

WATERFORD STEAM ELECTRIC STATION, UNIT 3

DOCKET NO. 50-382

I. INTRODUCTION

On February 22, 1983, both of the reactor trip circuit breakers at Unit 1 of the Salem Nuclear Power Plant failed to open when an automatic trip signal was generated due to a steam generator low-low level condition. This incident occurred during plant startup and the reactor was tripped manually by the operator almost coincidentally with the automatic trip. Shortly thereafter on February 25, 1983, during plant startup, both reactor trip circuit breakers again failed to open upon an automatic reactor trip signal from the reactor protection system. In this incident the reactor was manually tripped by the operator about 30 seconds after the initiation of the automatic trip signal. The failure of the circuit breakers to open has been determined to be related to the sticking of the under voltage trip device.

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 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 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 were categorized into four areas: (1) Post-Trip Review, (2) Equipment Classification and Vendor Interface, (3) Post-Maintenance Testing, and (4) Reactor Trip System (RTS) Reliability Improvements.

The third action item, Post-Maintenance Testing, consists of Action Items 3.1 and 3.2. This safety evaluation report (SER) addresses Action Items 3.1 and 3.2, "Post-Maintenance Testing (All Safety-Related Components)."

II. REVIEW GUIDELINES

This evaluation of the utility response was conducted using NRR review guidelines provided by memorandum dated February 11, 1985, from Mr. Frank J. Miraglia, Acting Director, Division of Licensing, NRR to Mr. Richard P. Denise, Director of Reactor Safety and Projects, Region IV and other Regional Division Directors. The review guidelines state:

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- a. The licensee should submit a statement indicating that has reviewed plant test and maintenance procedures and Technical Specifications to assure that post-maintenance operability testing of all safety-related components is required.
- b. The licensee's statement should contain a verification that vendor recommended test guidance has been reviewed, evaluated, and where appropriate, included in the test and maintenance procedures or the Technical Specifications.
- c. An unambiguous commitment should be obtained from each licensee that post-maintenance testing will verify component capability to perform all safety functions.

### III. EVALUATION AND CONCLUSION

By letters dated March 5, 1984, November 15, 1985, and January 15, 1986, the licensee provided information regarding post-maintenance testing of safety-related components. During a telephone call on August 30, 1988, Mr. R. Probus, Licensing Engineer, provided additional information, which enhanced statements made in the submittal.

Post-maintenance operability testing demonstrates that equipment is capable of performing its safety functions and ensures operability prior to being returned to service. The licensee indicated it has conducted a review of test procedures, maintenance procedures, and Technical Specifications. As a result of this review, the licensee indicated that it has determined that post-main-tenance operability testing of all safety-related components is being conducted as required. In addition, the licensee indicated that it has verified that this post-maintenance operability testing is sufficient to assure that safety-related components are properly returned to service.

The licensee's administrative procedures prescribe an ongoing review program. This program ensures that any appropriate vendor or engineering recommendations that could affect post-maintenance operability testing are incorporated into maintenance and test procedures or the Technical Specifications.

Based on our review, we conclude that post-maintenance testing of all safety-related components at Waterford Steam Electric Station, Unit 3 meets the review guidelines and is acceptable.

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Dated: September 22, 1988