

## SAFETY EVALUATION

### GENERIC IMPLICATIONS OF SALEM ATWS EVENT

#### GENERIC LETTER 83-28, ITEMS 3.1.1 AND 3.1.2

#### RANCHO SECO NUCLEAR STATION

#### DOCKET NO. 50-312

### I. INTRODUCTION

On February 25, 1983, during startup of the Salem Unit 1 plant, both circuit breakers in the Reactor Trip System failed to open automatically upon receipt of a valid trip signal. As a result of that event the NRC's Office of Inspection and Enforcement issued IE Bulletin 83-01 which described the event and requested specified prompt corrective actions by licensees. As the cause and ramifications of the event were more clearly developed, the NRC's Office of Nuclear Reactor Regulation issued on July 8, 1983, Generic Letter 83-28, "Required Actions Based on Generic Implications of Salem ATWS Events." This letter addressed issues related to reactor trip system reliability and general management capability. The letter was sent to all licensees of operating reactors, applicants for operating licenses and holders of construction permits.

One of the areas of reactor trip system reliability considered in Generic Letter 83-28 (GL 83-28), is that of post-maintenance testing of reactor trip system components. This is identified in GL 83-28 as Item 3.1. This evaluation addresses the acceptability of the responses to parts 3.1.1 and 3.1.2 of this item, provided by the Sacramento Municipal Utility District (the licensee) for the Rancho Seco Nuclear Station (the facility).

### II. EVALUATION

Items 3.1.1 and 3.1.2 of GL 83-28 state as follows:

- "1. Licensees and applicants shall submit the results of their review of test and maintenance procedures and Technical Specifications to assure that post-maintenance operability testing of safety-related components in the reactor trip system is required to be conducted and that the testing demonstrates that the equipment is capable of performing its safety functions before being returned to service."
- "2. Licensees and applicants shall submit the results of their check of vendor and engineering recommendations to ensure that any appropriate test guidance is included in the test and maintenance procedures or Technical Specifications, where required."

By letters dated November 4, 1983 and June 21, 1985, the licensee responded to a number of GL 83-28 items, including Items 3.1.1 and 3.1.2. Regarding Item 3.1.1, the licensee's November 4, 1985 letter stated the Babcock and Wilcox Owners' Group (BWOG) was developing generic guidance for determining that post-maintenance operability testing demonstrates

required for Item 3.1); and, based on the results obtained for this system, the review would be extended to all other safety-related systems to include the test and maintenance procedures to the depth and scope deemed appropriate. In the letter of June 21, 1985, the licensee stated the review of generic guidance and vendor recommendations, and the review of the reactor trip system had been completed and that it had been determined the maintenance and surveillance procedures for this system include the test guidance required to demonstrate post-maintenance operability. In addition, the licensee cited the facility procedure, AP.3 - Work Request, which states as follows:

"Any class 1 component or system removed from service for maintenance, requires post-maintenance testing to assure that the equipment is capable of performing its safety functions before being returned to service."

Because "class 1" is the designator used by the licensee to identify safety-related equipment, we conclude the above provision invokes the basic requirement that all safety-related equipment receive post-maintenance testing that verifies the capability to perform the required safety function.

The extension of the review of plant procedures beyond those associated with the reactor trip system, is also addressed by the licensee's letter of June 21, 1985. On this subject, it is stated that based on the completed review of the reactor trip system, the licensee believes the maintenance and surveillance procedures specified for performing post-maintenance testing for all safety-related equipment, assure the equipment is capable of performing its safety function. In addition, the licensee states maintenance and surveillance procedures are reviewed by the engineering staff on a two year cycle. The licensee has also committed to revise, by August 1985, the checklist used for this review to include a specific requirement to review post-maintenance test requirements. In addition, the licensee states facility procedures require engineering review of vendor information when it is received, to ensure any changes are included in maintenance and surveillance procedures.

The staff observes that although the licensee has not performed a review of maintenance and surveillance procedures for all safety-related systems, the licensee has completed such a review for the reactor trip system. By extrapolating the positive results of that review, the licensee concludes the procedures for all safety-related systems are likely to be similarly acceptable. The staff believes this is a basically reasonable conclusion. Supporting the acceptability of the licensee's program are: (1) the explicit provision in the facility work request procedure requiring post-maintenance testing of all safety-related components; (2) the review of maintenance and surveillance procedures on a two year cycle; and (3) the program for review and implementation of incoming vendor service recommendations. The staff also notes the licensee has committed to strengthen the present program by adding a specific requirement to review post-maintenance test requirements during the periodic engineering review of maintenance and surveillance procedures. Based on these considerations, the staff

believes the licensee has defined a program which not only addresses the concerns of Items 3.2.1 and 3.2.2 of GL 83-28, but will continue to address these concerns in the future. We further note the licensee's implementation of this program is subject to evaluation and confirmation by the NRC's inspection programs.

### III. CONCLUSIONS

Based on the provisions of the licensee's administrative procedure, AP.3, and the results of the licensee's review of the maintenance and surveillance procedures applicable to the reactor trip system, we conclude that post-maintenance operability is required of all safety-related equipment and such testing demonstrates the equipment is capable of performing its safety function. Accordingly, we conclude the licensee's program and action meet the requirements of Item 3.2.1 of Generic Letter 83-28, and this item is closed.

Based on the results of the licensee's review of the maintenance and surveillance procedures for the reactor trip system; the licensee's existing programs for engineering review of such procedures on a periodic basis, and review of vendor information when received; and the licensee's commitment to add a specific item to the procedure review checklist addressing post-maintenance testing, we conclude the licensee has a continuing program for assuring that appropriate test guidance is contained in facility maintenance and test procedures. Accordingly, we conclude the licensee's program and action meet the requirements of Item 3.2.2 of Generic Letter 83-28, and this item is closed.

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