



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064

February 6, 2001

MEMORANDUM TO: Clyde C. Osterholtz, Resident Inspector, Fort Calhoun Station

FROM: Ken E. Brockman, Director, Division of Reactor Projects *EECollins for*

SUBJECT: SPECIAL INSPECTION TEAM AT SAN ONOFRE  
NUCLEAR GENERATING STATION, UNIT 3

In response to our initial evaluation of the impact of the switchgear failure and fire at San Onofre Nuclear Generating Station, Unit 3, on February 3, 2001, a Special Inspection Team is being chartered. You are hereby designated as the Special Inspection Team leader.

A. Basis

On February 3, 2001, a turbine trip and automatic reactor trip from 40 percent power occurred as a result of a nonsafety-related 4160V switchgear failure. The catastrophic switchgear failure caused a fire that lasted more than 15 minutes, resulting in operators declaring a Notice of Unusual Event. The electrical transient caused safety-related 4160V loads and the reactor coolant pumps to transfer to offsite power from the San Onofre, Unit 2, reserve auxiliary transformers. All other nonsafety-related electric power was lost for an extended period. The electrical transient and the associated fire also caused a temporary loss of nonvital batteries at Unit 3. As a result, operators experienced a complete loss of control room annunciators for 16 minutes. In addition, Unit 3 containment purge isolated on a high radiation signal.

A Special Inspection Team has been dispatched to better understand the cause of the 4160V electrical transient, the effect of the electrical transient on the control room annunciators, and the overall licensee response to the event. The team is also tasked with gaining a better understanding of the adequacy of the fire protection equipment associated with the affected switchgear and the impact of the transient on the grid conditions. The team is expected to perform fact-finding in order to address the following:

B. Scope

1. Develop a complete sequence of events related to the nonsafety-related 4160V switchgear failure, the turbine and reactor trip, transfer of safety and nonsafety electrical loads to Unit 2 sources, automatic equipment responses, operator actions, and fire department response to the switchgear failure and fire.

2. Review the licensee's root cause determination and corrective actions for independence, completeness, and accuracy.
3. Review the adequacy of the overall staff response to the electrical transient, including operator actions in controlling plant equipment, operator determination of the event classification, NRC notification, and plant staff response.
4. Review the response of the electrical switchgear, including the transfer to Unit 2 power sources for safety- and nonsafety-related power. Determine the effect of the transient on control room annunciators and verify the adequacy of the response of the nonvital battery supply to the control room annunciators. Evaluate potential implications of the response of the nonvital battery on the design and operation of safety-related batteries. Evaluate the nonvital battery response for potential generic implications.
5. Evaluate the adequacy and effectiveness of the fire protection equipment associated with the nonvital 4160V switchgear. Evaluate the failure modes associated with the 4160V switchgear failure and the interaction of 4160V switchgear with the nonvital battery and other electrical equipment.

C. Guidance

Inspection Procedure 93812, "Special Inspection," provides additional guidance to be used by the Special Inspection Team.

This memorandum designates you as the Special Inspection Team leader. Your duties are described in Inspection Procedure 93812. The team composition will be discussed with you directly. During performance of the special inspection, designated team members are separated from their normal duties and report directly to you. The team is to emphasize fact-finding in its review of the circumstances surrounding the event, and it is not the responsibility of the team to examine the regulatory process. Safety concerns identified that are not directly related to the event should be reported to the Region IV office for appropriate action.

The Team will report to the site, conduct an entrance, and begin inspection on Tuesday, February 6, 2001. Tentatively, the inspection should be completed by close of business February 10, with a report documenting the results of the inspection issued within 45 days of the completion of the inspection. While the team is on site, you will provide daily status briefings to Region IV management, who will coordinate with NRR to ensure that all other parties are kept informed.

This Charter may be modified should the team develop significant new information that warrants review. Should you have any questions concerning this Charter, contact Mr. Ken E. Brockman, Director, Division of Reactor Projects at (817) 860-8248.

cc via E-mail:

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