



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4125

June 17, 2009

MEMORANDUM TO: Jeremy Groom, Resident Inspector, Team Leader
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Division of Reactor Projects

FROM: Dwight Chamberlain, Director **/RA/ AVegel for**
Division of Reactor Projects

SUBJECT: CHARTER FOR SPECIAL INSPECTION INVOLVING THE FAILURE OF
THE TURBINE DRIVEN AUXILIARY FEEDWATER PUMP TO START AT
THE CALLAWAY PLANT

In response to the identification that the turbine driven auxiliary feedwater pump did not start and may not have been able to perform its function potentially due to the motor operated trip and throttle valve stem being improperly lubricated between May 4 and May 25, 2009, a special inspection will be performed. You are hereby designated as the special inspection team leader.

A. Basis

On May 25, 2009, during a planned surveillance run of the turbine driven auxiliary feedwater pump, the pump did not pass its surveillance. The trip and throttle valve for the turbine did not actuate properly, such that the turbine did not start and come up to speed. The torque switch on the valve tripped. Inspection of the shaft for the trip and throttle valve showed that the lubricant used on the valve shaft was dried.

The licensee took corrective action to fix (lubricate) the valve that day which took approximately 12 hours to accomplish. The turbine driver auxiliary feedwater pump was subsequently tested and restored to an operable status.

A regional Senior Reactor Analyst (SRA) preliminarily estimated the Incremental Conditional Core Damage Probability for this issue to be 7.3×10^{-6} , which falls in the overlap region between baseline and special inspection. Although the risk for this event is in the overlap region, a special inspection will be performed since there may be generic issues with lubricating motor-operated valves.

B. Scope

1. Develop a complete sequence of events related to the discovery of the degraded condition.
2. Review operating experience involving prior opportunities to identify and evaluate action implemented at Callaway as a result of operating experience. Included in this should be a review of past notices by the valve shaft manufacturer of one lot of defective shafts in the 1990's that they recommended replacing.
3. Review the licensee's root cause analysis and determine if it was conducted to a level of detail commensurate with the significance of the problem.
4. Determine if the licensee's corrective actions have addressed the extent of condition and assess whether these actions are adequate to prevent recurrence. In particular determine if any other motor operated valves may have been improperly lubricated.
5. Examine the valve replacement program and lubricating schedule for how the trip and throttle valve (as well as other valves) are tracked to ensure timely lubrication.
6. Collect facts to support an accurate portrayal of exposure time.
7. Collect facts to support proper crediting of the licensee's ability to recover the turbine driven auxiliary feedwater pump within 1 hour as assumed in the risk assessment. Ensure to include time needed to procure the lubricant if there was a need to grease the valve during any events.
8. Review the licensee's procedures directing them to manually operate valve with particular attention to whether they were sufficient to direct operators to manual operations in a timely manner and whether they are accomplishable under event-like conditions (i.e., station blackout).
9. Determine whether the licensee's lubrication schedule and procedural scope for the trip and throttle valve were within line of those recommended by the Terry Turbine User's Group and industry standards
10. Evaluate whether there was the potential for damaging other parts of trip and throttle valve in the method the licensee chose to recover the valve on May 25, 2009.
11. Evaluate whether the licensee was thorough in their troubleshooting on May 25, 2009, for evaluating whether other parts of trip and throttle valve could have been damaged and caused the failure (in particular the stress point on the screw spindle button).
12. Examine whether the licensee followed industry standards for trip and throttle valve rebuilds which they perform.
13. Determine what type of lubricant the licensee was using (lithium based grease) and whether that lubricant is acceptable for the application.
14. Examine the licensee's monthly cycle of lubrication and licensee's explanation of how a regularly stroked valve could allow the lubricant to harden.
15. Evaluate the licensee's lubrication procedures for the possibility of mixing grease by not removing old, different types of grease if the licensee has switched lubricants in the past.
16. Determine if the licensee followed their Generic Letter 89-10 program for the trip and throttle valve.
17. Verify the licensee met the proper reporting requirements of 10 CFR 50.72 and 10 CFR 50.73. Also determine if the licensee has plans to issue a Licensee Event Report to document this issue.
18. Review the licensee's compliance with the Technical Specifications.

C. Guidance

Inspection Procedure 93812, "Special Inspection," will be used during this inspection. The inspection should emphasize fact-finding in its review of the circumstance surrounding this event. It is not the responsibility of the team to examine the regulatory process. Safety concerns identified that are not directly to the event should be reported to the Region IV office for appropriate action.

The team will report to the site and begin inspection no later than June 22, 2009. While onsite, you will provide daily status briefings to Region IV management, who will coordinate with the Office of Nuclear Reactor Regulation, to ensure that all other parties are kept informed. Depending on the outcome of the inspection, inspection results will be documented in Special Inspection Report 05000482/2009009. This report will be issued within 45 days of the completion of the inspection.

This guidance may be modified should you develop significant new information that warrants review. Should you require support for the final determination of the risk significance of any issue, contact David Loveless at (817) 860-8161. Should you have any questions concerning this guidance, contact me at (817) 860-8141.

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