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 50-261/88-04.

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Carolina Power & Light Company

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United States Nuclear Regulatory Commission
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
INSPECTION REPORT 88-04

Gentlemen:

Carolina Power and Light Company (CP&L) provides this response to the alleged violation in the USNRC Inspection Report 50-261/88-04.

Alleged Severity Level IV Violation (RII-88-04-01-SL4).

10CFR50, Appendix B, Criterion V, as implemented by Section 6 of the CP&L Corporate Quality Assurance Manual, requires that activities affecting quality shall be prescribed by documented instructions or drawings of a type appropriate to the circumstances. Instructions shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Sketch 2402 requires spring hanger 339 located on the pressurizer spray line to have four (4) anchor bolts installed in each anchor plate.

Contrary to the above, activities affecting quality were not accomplished in accordance with instructions appropriate to the circumstance in that Work Request (WR) 87-AMMY1 did not include appropriate quantitative or qualitative acceptance criteria, resulting in, after completion of WR 87-AMMY1, spring hanger 339 being found with only three (3) anchor bolts installed in its anchor plate.

Response

1. Admission or Denial of the Alleged Violation

CP&L acknowledges the alleged violation.

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2. Reason for Violation if Admitted

The removal and reinstallation of the pressurizer cubicle cover has been a repetitive work evolution during Plant outages throughout the operating history of the Plant. It has been considered an activity well within the skill of the craft and, as such, has been performed without documented instructions. These activities involve the disassembly and reassembly of spring hanger 339.

3. Corrective Steps Which Have Been Taken and Results Achieved

Following identification of the equipment deficiencies with regard to the removal and reinstallation of the pressurizer cubicle cover, including the necessary adjustments to spring hanger 339, Maintenance work requests were accomplished to correct certain hanger discrepancies. An Engineering Evaluation was performed to assess the existing installation of the spring hanger and determined that the hanger was acceptable with three anchors for startup and full power operations. Installation of the one missing anchor was scheduled for a Plant outage involving cold shutdown conditions in light of the adverse personnel environment inside the Pressurizer cubicle during power operations.

Corrective Maintenance Procedure CM-403 has been revised to include specific instructions for the removal and reinstallation of the pressurizer cubicle cover, including disassembly and reassembly of spring hanger 339.

4. Corrective Steps Which Will Be Taken to Prevent Repetition of the Violation

The one anchor missing on spring hanger 339 will be installed during the 1988 Refueling Outage as recommended by the Engineering Evaluation discussed above.

The revision to CM-403 will provide appropriate quantitative and qualitative acceptance criteria for the disassembly and reassembly of Pressurizer cubicle spring hangers.

5. Date When Full Compliance Will Be Achieved

Prior to Plant startup following Refueling Outage No. 12.

In addition to the response to the Notice of Violation, the Inspection Report requested information on actions taken or planned to reverse an adverse trend and improve the reliability of the Emergency Diesel Generator System.

CP&L recognizes and acknowledges that problems experienced within the past fourteen months do indicate an adverse trend in reliability of the diesel generators; however, it should be noted that in the years prior, the diesel generators have demonstrated high reliability. Nonetheless, the problems experienced during 1987 and 1988 clearly indicate a need for an aggressive reliability improvement program.

During the fourteen months, problems with the diesel generators had been addressed in more or less a reactive mode because of prior good performance and high reliability. It has since been recognized, during the recent overspeed trip experience with both diesel generators, that a more pro-active approach was needed. As a result, investigative and review teams were established to address the immediate concerns on the diesel generators to ensure a comprehensive, aggressive approach to corrective action prior to returning them to service. The teams consisted of onsite and offsite CP&L personnel with the help of three contractor organizations, including Fairbanks-Morse (diesel generator manufacturer), Woodward Governor (governor manufacturer), and Trident Engineering (an engineering consulting firm also specializing in diesel generators). As a result of these team efforts, a number of short term and long term reliability improvement recommendations have been made.

In addition to these efforts to address the immediate problems with the diesel generators, a longer term approach to programmatic improvement has been initiated. Specifically, a comprehensive plan for diesel generator reliability improvement has been developed that incorporates recommendations from the investigative and review teams, Maintenance requests for equipment improvements, vendor recommendations, consultant recommendations, preventive maintenance program improvements, and others. This plan includes several items for additional evaluations. As the evaluations are completed and recommendations result the plan will be updated. In addition, the CP&L "Systems Engineer" approach to the Emergency Diesel Generator System has been strengthened and now provides a single point contact for all Plant and vendor personnel for diesel generator issues. The assignment of a sole individual responsible for diesel generator reliability is intended to provide the attention and focus needed to ensure early identification of degrading conditions/trends and establishing appropriate, timely corrective action plans.

Regarding specific actions which have been taken to improve diesel generator reliability, we offer the following:

- New scavenging air blowers, modified by the factory to meet vendor recommendations for increased clearances, have been installed on both diesel generators. In addition, procedures have been enhanced to call for blower-to-casing clearance measurements at each refueling outage inspection.

- The support coolers on both diesel generators have been replaced. In addition, the preventive maintenance program has been upgraded to ensure continued performance of these coolers.
- New starting-air solenoids and check valves have been installed on both diesel generators.
- The overspeed trip devices on both diesel generators have been refurbished and a testing program utilizing a testing lab has been initiated to investigate the overspeed trip components removed earlier this year, to further evaluate root cause of the overspeed trips.
- The governors on both diesel generators have been rebuilt and upgraded.
- Several improvements have been made regarding diesel generator surveillance:
 - The periodic Operations Surveillance Test (OST) used to verify operability of the diesel generators, has been improved to reflect manufacturer recommendations and changed from a weekly to a biweekly test to reduce the number of diesel generator starts.
 - A monitor is now used to evaluate the speed response of the diesel generators during planned starts. Later this year, a system will be installed on the diesel generators to automatically monitor speed during any start.
 - Data collected as part of the biweekly OST is now trended by the System Engineer to evaluate engine performance.
 - Additional instrumentation on the diesel generators has been included in the calibration program.
- The diesel generator consulting firm has completed a Diesel Generator Reliability Improvement Study for H. B. Robinson. This study and its recommendations are currently being evaluated.

The above represent the major reliability improvement actions implemented in 1987 and 1988. Following are some of the other major actions either being taken or planned to further improve the reliability of the diesel generators.

- A proposed Technical Specification change is being prepared for submittal to allow two reliability improvement items to be implemented:

- Permit barring-over of either diesel generator following operation to clear lube oil from the cylinders (vendor recommendation).
- Permit slow speed starts of either diesel generator to reduce cold fast starts other than required to satisfy surveillance requirements.
- A number of minor Plant modifications are currently planned during the next Refueling Outage:
 - Fuel oil piping modifications to reduce fuel oil leaks.
 - Lube oil system improvements to provide for more representative sampling of lube oil and improved temperature control of the lube oil when the engine is shut down.
 - A modification to provide for the barring-over of the diesel generators as discussed above.
- In addition, the following reports are being reviewed and recommendations which result will be factored into the reliability improvement plan.
 - NUREG CR-5708, "A Reliability Program for Emergency Diesel Generators at Nuclear Power Plants"
 - Battelle Report TNL-6287, "Study Group Review of Nuclear Service Diesel Generator Testing and Aging Mitigation"
 - The Diesel Generator Reliability Improvement Study completed for H. B. Robinson by the diesel generator consulting firm.

CP&L believes the efforts taken and planned demonstrate an aggressive, redirected approach to improving the long-term reliability of the diesel generators.

If you have any questions concerning this response, please contact Mr. J. M. Curley at 803-383-1367.

Very truly yours,

Guy P. Beatty, Jr.
Guy P. Beatty, Jr.
Vice President

Robinson Nuclear Project Department

DAS:dwm

cc: Dr. J. N. Grace
Mr. L. W. Garner
INPO