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SUBJECT: Responds to NRC 891208 ltr re violations noted in Insp Rept
 50-400/89-28.

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Carolina Power & Light Company

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United States Nuclear Regulatory Commission
Washington, DC 20555

NRC-693

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400
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REPLY TO A NOTICE OF VIOLATION


Gentlemen:

In reference to your letter of December 8, 1989, referring to I.E. Report RII: 50-400/89-28, the attached is Carolina Power and Light Company's reply to the violation identified in Enclosure 1.

It is considered that the corrective actions taken are satisfactory for resolution of the item.

Thank you for your consideration in this matter.

Very truly yours,


R. B. Richey, Manager
Harris Nuclear Project

MGW:vdj

Enclosure

cc: Mr. R. A. Becker (NRC)
Mr. S. D. Ebnetter (NRC - RII)
Mr. J. E. Tedrow (NRC - SHNPP)

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Attachment to CP&L Letter of Response to NRC I.E. Report
RII: 50-400/89-23

Reported Violation:

Technical Specification 6.8.1.a requires that written procedures be established and implemented covering procedures outlined in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Regulatory Guide 1.33, Appendix A, paragraph 8.B.1.A requires that written procedures be provided for containment leak-rate tests.

Engineering Surveillance Test EST-212, Type C Local Leak Rate Test provides the steps necessary to perform local leak rate testing under normal operating conditions.

Contrary to the above, EST-212 was inadequate, in that it did not provide the necessary procedural steps or precautions to ensure the satisfactory completion of this testing during abnormal plant conditions, which resulted in the injection of borated/contaminated water into the plant instrument air system.

Denial or Admission and Reason for Violation:

The violation is admitted.

On October 30, 1989, the plant was in cold shutdown mode 5, operating at midloop condition in the Reactor Coolant System (RCS) to support installation of steam generator nozzle dams prior to the flooding of the reactor vessel refueling cavity. Containment closure conditions were in place, per the commitments made to the NRC for Generic Letter 88-17 regarding operation in such a reduced inventory condition. This required each containment penetration to be either isolated, or in service and pressurized, so as to provide a barrier for fission products in the event of a loss of shutdown cooling while the RCS is at reduced inventory.

The outage schedule included local leak rate testing (LLRT) for several containment penetrations with reduced inventory in the RCS. The procedure (EST-212) for performing this testing requires the penetration to be drained prior to pressurizing. This is normally done by opening drains and vents on both sides of the containment wall and allowing the water to gravity drain out of the penetration. However, due to containment closure requirements, this evolution was prohibited as it would open a path from containment. In order to conduct this testing during midloop conditions per the outage schedule, the penetration was to be drained by pressurizing the penetration with air and then opening the drain valve and forcing the water out with the air pressure. This method would keep the penetration pressurized while draining and was determined to satisfy the requirements to maintain containment closure conditions during reduced inventory conditions.



When this pressurized draining was to be performed on the charging penetration, the Technical Support Specialist inadvertently connected the instrument air tubing to the letdown penetration. This penetration is in the same general area as the charging penetration. The letdown system was in service and pressurized from the Residual Heat Removal pump discharge with primary coolant. When the vent valves were opened to begin pressurizing the line, the letdown line pressure forced primary coolant back up the tubing and into the instrument air header. The presence of some water in the tubing at this point in the activity was not unexpected, so personnel did not immediately recognize the problem. Water was then observed leaking from the connection of the tubing to the instrument air system and the Health Physics Technician assisting on this job observed 15,000 cpm when he frisked this area. Over the next few minutes, personnel continued their efforts to drain the penetration and after about 3-4 minutes, discovered that the airline was attached to the wrong penetration. The valves were then closed to terminate the leakage of primary coolant into the instrument air system. No personnel were using the system for breathing air at the time of the event, and all use of the instrument air system was suspended after the event.

The immediate cause of the event was a personnel error, in that the specialist connected the air tubing to the wrong piping. The specialist involved was dedicated to the LLRT program and, through his personal diligence, had worked for 22 continuous days, averaging 10 hours per day. He had been contacted at home at 10:00 p.m. and 4:00 a.m. on the day of the event. This may have contributed to the error.

An inadequate procedure is considered to have contributed to the violation also. The pressurized draining of penetrations was not explicitly covered in the LLRT procedure. If the activity had been more thoroughly covered in the procedure and subject to technical and safety reviews, better controls could have been in place, such as independent verification prior to pressurizing the penetration. The safety review may have brought into question whether containment closure is satisfied by pressurized draining or whether other alternatives were available.

Corrective Steps Taken and Results Achieved:

The performance of LLRTs using the pressurized draining method was suspended. A formal investigation was initiated to determine the extent of contamination. This investigation concluded that a significant portion of the instrument air system in the Reactor Auxiliary Building had been contaminated, as well as the containment building header.

The instrument air system has been flushed and decontaminated to the extent practicable. A safety evaluation has been completed for the "as left" condition of the system to justify continued use. The use of instrument air for breathing air has been suspended and will be formally prohibited by procedure by February 1, 1990.

Corrective Steps Taken to Avoid Further Violations:

The following actions have been or will be taken:

1. EST-212 has been revised to require that any deviation from normal, atmospheric venting and draining practices such as use of compressed air, nitrogen, etc. shall be covered by a temporary change to this procedure.
2. The event has been reviewed with the responsible Technical Support Specialist and applicable Technical Support personnel.
3. The use of overtime for personnel involved in testing of safety-related equipment will be evaluated and guidelines established by February 1, 1990.
4. The use of instrument air for activities requiring connection to internally contaminated systems will be evaluated and a plant general order outlining specific controls and exclusions will be issued by February 1, 1990.

Date When Full Compliance will be Achieved:

Full compliance is pending completion of the items above, which is expected by February 1, 1990.