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SUBJECT: Responds to NRC 930309 ltr re violations noted in insp rept 50-400/94-05.Corrective actions:procedures containing backflush evoluations revised to give radwaste control operator single point accountability.

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NOTES:Application for permit renewal filed. 05000400

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APR 8 1994

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REPLY TO A NOTICE OF VIOLATION

Gentlemen:

In reference to your letter of March 9, 1994, referring to NRC Inspection Report 50-400/94-05, the attached is Carolina Power & Light Company's reply to the violations identified in Enclosure 1.

It is considered that the corrective actions taken/planned are satisfactory for resolution of the violations. Questions regarding this matter may be referred to Mr. D. C. McCarthy at (919) 362-2100.

Very truly yours,

W. R. Robinson

MGW:cmg

c: Mr. S. D. Ebneter (NRC-RII)
Mr. N. B. Le (NRR)
Mr. J. E. Tedrow (NRC-SHNPP)

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REPLY TO A NOTICE OF VIOLATION
NRC INSPECTION REPORT NO. 50-400/94-05

Reported Violation A:

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, paragraphs 3, 6, and 9, require procedures for operation of the chemical and volume control system, for combating acts of nature, and for performing maintenance.

Operating Procedure OP-107, Chemical and Volume Control System, Section 8.11, specifies that the bypass valve be closed after the reactor coolant filter is backflushed and filter inlet and outlet valves have been opened.

Administrative Procedure AP-301, Adverse Weather Operation, Revision 2, step 5.1.1.4.c. directs operators to verify heaters are operable in all buildings and structures.

Modification Procedure EM-003, Termination and Testing of Wire and Cable, Attachment 1, specifies that cable conductors be properly identified and that a quality verification check be performed.

Contrary to the above,

1. On February 18, 1994, the bypass valve for the reactor coolant filter was closed prior to the opening of the filter inlet and outlet valves. This action resulted in the inadvertent isolation of the letdown system which challenged system relief valves.

2. As of January 19, 1994, following several periods during which Procedure AP-301 was in effect, several inoperable heaters in the emergency service water and emergency diesel generator structures were not identified. This contributed to below design temperatures existing in both areas during a recent winter cold spell.

3. On January 7, 1994, cable conductors were not properly identified for motor operated valve AV-B4 which resulted in valve operation in the opposite direction during functional testing. In addition a quality verification check for these conductors was not properly performed.

This is a Severity Level IV violation (Supplement I).

Denial or Admission:

The violation is admitted.

Reason for the Violation:

Example 1

The inadvertent isolation of the letdown system occurred due to a miscommunication between the main control room and radwaste operations responsible for reopening the reactor coolant filter inlet and outlet valves. This miscommunication resulted in the main control room operator instructing the operations auxiliary operator (AO) to close the filter bypass valve prior to radwaste operations opening the filter inlet and outlet isolation valves.

Carolina Power & Light acknowledges past problems with coordinating filter backflush evolutions and believes that the actions stated under "corrective steps taken to prevent further violations" are satisfactory for resolving this matter.

Example 2

Operations personnel failed to verify that the referenced heaters were operable as required by procedure AP-301. While AP-301 does direct operators to verify heaters are operable in buildings and structures, interviews with AOs indicated the absence of guidance on the method of performing the verification and what compensatory actions should be taken if a heater is found inoperable. It is believed that the absence of specific guidance contributed to the failure to properly verify heater operability.

Example 3

Craft personnel mislabeled two of seven control cables during implementation of a plant modification to replace damaged cables inside motor operated valve AV-B4. The mislabeled cables were not detected due to inadequate verification of the work process by craft personnel and inadequate verification by Quality Control (QC) personnel involved in the final sign off documenting satisfactory labeling of the cable conductors.

Corrective Steps Taken and Results Achieved:

Example 1

The filter bypass valve was closed only momentarily before the error was brought to the control operators attention by the senior control operator who was in communication with the radwaste control room. The control operator immediately instructed the AO to open the bypass valve. There were no letdown pressure or volume control tank (VCT) level perturbations observed as a result of this event.

Example 2

The immediate action taken was to restore the room temperatures to above 51°F. This was accomplished by utilizing the heating coil of an existing air supply fan for the emergency service water (ESW) structure and placement of portable heaters in both the ESW structure and emergency diesel generator (EDG) building. Deficiency tags were initiated for those inoperable heaters which were not previously identified.

An engineering evaluation was performed and concluded that no equipment in the ESW structure or EDG building would be damaged or rendered inoperable by temperatures above 32°F. The lowest recorded temperature was logged on January 19, 1994, when the "B" ESW electrical equipment room temperature dropped to 38°F.

Example 3

The mislabeled cables were discovered during post maintenance testing when valve AV-B4 operated in the incorrect direction. The associated work package was revised and the cables were properly labeled and verified by both craft and QC personnel. The QC personnel involved in this incident received counseling by their supervision.

Corrective Steps Taken to Prevent Further Violations:

Example 1

Night orders were issued to both the operations and radwaste shifts on February 25, 1994, describing the event with emphasis on the need for clear and concise communications.

The individuals involved in this event have been counseled.

Procedures containing filter backflush evolutions have been revised to give the radwaste control operator single point accountability for directing operations associated with filter backflush evolutions.

Example 2

AP-301 will be revised to include a list of heaters, their locations, and instructions concerning the method to be used to verify proper operation and what compensatory actions to take if heaters are found to be not operating properly.

An annual inspection of heat trace and heaters will be established and scheduled for each fall prior to cold weather. To ensure prompt corrective action, equipment found to be deficient will be identified as AP-301 components in the WR&A process. These exceptions will be discussed at the daily schedule review meetings.

Example 3

A training class was conducted on January 21, 1994, with Craft Resource personnel. The mislabeled cable incident was reviewed as well as the requirements of procedure EM-003 and the verification program.

On February 14, 1994, an electrical termination mock-up was developed to assist craft personnel in hands on training. As part of this training the verification process and the communications between the installer and verifier were demonstrated and stressed to ensure a quality product. Procedure MAP-003, Training of Harris Plant Outage and Modifications Section Personnel, will be changed to include a requirement for ongoing training in this area.

A training session was conducted on January 24, 1994, for appropriate QC personnel which stressed the importance of assuring that independent verification is done completely prior to signing off QC hold points. A similar training session has been conducted for QC contractors being utilized during Refueling Outage #5.

Date When Full Compliance Will Be Achieved:

Example 1

Full compliance was achieved on April 8, 1994, with the completion of the corrective steps to prevent further violations as stated above .

Example 2

Full compliance will be achieved by May 31, 1994, upon completion of the corrective steps to prevent further violations as stated above.

Example 3

Full compliance will be achieved by May 31, 1994, upon completion of the corrective steps to prevent further violations as stated above.

Reported Violation B:

10 CFR 50, Appendix B, Criterion XVI, states that measures shall be established to assure conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected.

The licensees Corporate Quality Assurance Manual, paragraph 12.3, requires that significant conditions adverse to quality be documented and reported to management. Further, the manual requires that corrective actions be determined which will preclude repetition of the condition.

Contrary to the above,

1. As of February 18, 1994, corrective actions regarding temperature maintenance of boron injection system flowpaths, were not adequate to prevent the boric acid transfer pump valve gallery room temperature from falling below the 65°F minimum requirement in technical specification 3.1.2.2.

2. Corrective actions taken in response to LER 92-02, dated January 19, 1992, were insufficient to identify and correct a degraded function of the plant computer for the Safety Parameter Display System (SPDS) on February 17, 1994. This resulted in the failure to declare an Unusual Event for approximately two days.

This is a Severity Level IV Violation (Supplement 1).

Denial or Admission:

The violation is admitted.

Reason for the Violation:

Example 1

Previous corrective actions regarding temperature maintenance of boron injection system flowpaths included a revision to OST-1021, Daily Surveillance Requirements, to record temperature maintenance data as a means of verifying a minimum temperature of 65°F along the boration flow path from the BAT to the charging pump suction. As a result of this increased monitoring, difficulty was identified with maintaining the boric acid transfer pump (BATP) valve gallery room minimum temperature.

The BATP valve gallery has a metal screen mesh doorway. The screen mesh door was installed at this location to restrict personnel access and allow air flow. With the screen mesh door installed, the two room heaters EUH#77 (5KW) and EUH#88 (15KW) were unable to maintain the room temperature above the required 65°F during cold weather. A temporary measure was taken by covering the screen mesh door with plastic to help maintain the room temperature.

Example 1 (continued)

A plant change request, PCR-6259 was initiated on February 28, 1992, to resolve the problem. PCR-6259 was approved on June 10, 1993, and provided for the replacement of the 5 KW heater EUH#77 with a new 15KW heater. Craft Resources personnel began work activities on August 17, 1993, to implement PCR-6259 at which time heater EUH#77 was taken out of service under a clearance and remained under clearance until the required work was completed on March 2, 1994.

After commencing work activities on August 17, 1993, PCR-6259 required field revisions and additional work which contributed to a delay in completing the new heater installation (i.e., Q-Class "A" core drill through Safety-Related wall). No alternative heat source was utilized in this room during the duration that the heater was inoperable to ensure the minimum room temperature was maintained.

Example 2

The specific SPDS problem cited in example 2 was caused by inadequate written guidelines and inadequate self-checking practices following trouble-shooting efforts on the Plant Process - Emergency Response Facility Information System (ERFIS) Computer. On February 15, 1994, the ERFIS Man-Machine Interface (MMI) failed, requiring Computer Support personnel to manually disable all MMI programs and perform a manual restart of MMI using the System Resource Monitor (SRM). In the process of disabling the MMI programs, task SPDSZZ.E was inadvertantly disabled. This resulted in the SPDS continuing to display, but not updating as parameters changed. This was discovered approximately 47 hours later. SPDS display in the control room is not required by Technical Specifications, but is required by the Harris Plant Emergency Plan. Specifically, the Emergency Plan requires declaration of an Unusual Event following the "inability of ERFIS to perform its intended function for a continuous period of 4 hours...as defined by...inability to display SPDS in the control room". At 1230 on February 17, 1994, an Unusual Event was declared and appropriate notifications made, even though SPDS was restored and the event had terminated approximately 3 hours earlier.

Corrective Steps Taken and Results Achieved:

Example 1

On January 28, 1994, at 0315 an AO on rounds discovered the BATP valve gallery room was at 62°F. The door to the room was open due to work activities associated with implementation of PCR-6259. The door was closed and an area air handling unit was secured to raise the temperature in the valve gallery room. At 0435 the BATP valve gallery room was restored to above 65°F. Since two boron flow paths remained operable no Technical Specification LCO was entered.

Example 2

When it was detected that the average reactor power value (computer point ANM-9120A) was not changing, Computer Support personnel investigated and discovered that software processor module SPDSZZ.E was not running. This caused the SPDS upper level displays to stop updating. A manual restart of this program was performed, which restored full function to the SPDS displays.

To address the overall ERFIS issue, an Event Review Team was developed to perform a comprehensive root cause investigation. A broad perspective was utilized in this investigation to ensure inclusion of key ERFIS functions, not just those required by Technical Specifications and to identify a common root cause for this and previous ERFIS related failure events.

Corrective Steps Taken to Prevent Further Violations:

Example 1

Implementation of PCR-6259 brings the room heating capability up to a level assuring that the BATP valve gallery remains above the minimum Technical Specification temperature limit of 65°F. The new heater installation was completed on March 2, 1994.

Placards will be placed near heaters EUH#77 and EUH#88 and on their associated power panels to caution plant personnel that de-energizing these heaters may affect the operability of safety related equipment.

Information will be included in the AO rounds guidance indicating the importance of heaters EUH#77 and EUH#88 on the operability of the boron injection system flowpath and direct that compensatory actions be initiated if the heaters are found not operating properly.

Example 2

The following corrective actions will be taken to improve the processes related to verification of proper ERFIS operation, detecting ERFIS failures and restoration of ERFIS operability following a failure. It should be noted that ERFIS is a collection of related subsystems, not a single entity. It is possible for a single subsystem to be declared inoperable while others continue to function normally and remain operable.

1. Revise Procedure OP-163 to include criteria which will result in declaring key ERFIS functions inoperable.

2. Generate a procedure to verify proper system operation when restoring ERFIS and/or ERFIS subsystems to operability.

3. Revise OWP-ERFIS to reference the procedure generated in corrective action #2.

4. Generate a procedure for Computer Support to conduct periodic checks of system status.

Example 2 (continued)

5. Update Operations logs to perform periodic channel checks of key ERFIS indications.

6. Designate the SPDS calculation task as a "critical task" and evaluate other ERFIS tasks to determine if additional "critical task" designation is needed. This will ensure that upon a failure of the designated "critical task", an automatic fail over occurs to the computer's backup central processing unit.

7. Develop an updated long-term strategy for ERFIS system reliability enhancements.

Date When Full Compliance Will Be Achieved:

Example 1

Full compliance will be achieved by May 31, 1994, upon completion of the steps to prevent further violations as stated above.

Example 2

Full compliance will be achieved by July 15, 1994, upon completion of the steps to prevent further violations as stated above.