

Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 868-5086



Southern Nuclear Operating Company

the southern electric system

J. D. Woodard
Vice President
Farley Project

July 16, 1992

10 CFR 2.201

Docket Nos. 50-348
50-364

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Joseph M. Farley Nuclear Plant
Reply to Notice of Violation
Report Number 50-348, 364/92-12
Item Number 50-348, 364/92-12-01
NRC Inspection of April 13 - May 18, 1992

Gentlemen:

This letter refers to the violation cited in the subject inspection report.

The attachment to this letter provides a summary of the past events referenced by the NRC cover letter and inspection report.

The violation states:

"10 CFR Part 50, Appendix B, Criterion XVI, and the J. M. Farley Plant Operations Quality Assurance Policy Manual, require that the licensee take measures to assure that conditions adverse to quality are promptly identified and corrected. Such measures are to be taken to assure that the cause of the condition is determined and corrective action is taken to preclude repetition.

Contrary to the above:

On April 13 with Unit 1 at 100 percent power and Unit 2 in a refueling outage, a plant system operator deenergized the power supply for Unit 1 residual heat removal (RHR) system containment sump suction valve Q1E11MOV8812B as part of a tag-out. The tag-out required deenergizing the power supply for the Unit 2 RHR system containment sump suction valve Q2E11MOV8812B. Deenergizing the power supply for the Unit 1 RHR "B" train containment sump suction valve, rendered the "B" train long-term, post-LDCs, low-pressure safety injection and recirculation mode of system operation inoperable. This condition existed for about 15 minutes.

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On April 20, with Unit 1 at 100 percent power and Unit 2 in a refueling outage, instrumentation and control technicians were authorized to calibrate the Unit 2 "service water to diesel generator building" differential pressure switch Q2P16PDS0621. After closing valves associated with the Unit 1 "service water to the diesel generator building" differential pressure switch Q1P16PDS0621, the technicians began calibration activities on the Unit 1 switch. While performing calibration activities on the Unit 1 switch, a test signal was sent to isolate service water supply and return valves from Unit 1. The "1B" emergency diesel generator was rendered inoperable and placed the diesel in a mandatory LCO for approximately three minutes.

On April 29, with Unit 1 at 100 percent power and Unit 2 in a refueling outage, a plant system operator opened the circuit breaker for the Unit 1 "D" service water pump. The tag-out directed the operator to open and rack out the breaker for the Unit 2 "D" service water pump. At the time of the event, the Unit 1 pump was running. With the operating Unit 1 service water pump deenergized, the available service water flow was reduced.

The licensee failed to assure that prompt corrective actions were in place to preclude repetitive personnel errors which resulted in the erroneous operation of incorrect opposite unit safety-related equipment.

This is a Severity Level IV violation (Supplement 1)."

Admission or Denial

The above violation occurred as described in the subject report.

Reason for Violation

This violation was caused by personnel error in that the initial corrective actions established by management for the individual events failed to preclude later events. In assessing the significance of this violation, Southern Nuclear Operating Company (SNC) requests that the NRC consider the prompt, progressive nature of the corrective actions taken after each event. The first event was primarily singular in nature thus singular corrective actions were taken. The second event lead to increased generic corrective actions. The third event resulted in more in depth root cause analysis and generic corrective actions.

Corrective Action Taken and Results Achieved

The following is a description of the three events and the corrective actions taken.

1. The first event occurred on 04-13-92 as described in the NOV. The cause of this event was personnel error. The error was due to inattention of a newly qualified System Operator who was in a hurry to perform the tagout so that he could leave work promptly at 1500 to meet a personal commitment. This event was determined to be singular in nature and corrective actions included:

- o temporarily removing the SO from shift,
- o remedial training of the SO with emphasis on wrong-unit, wrong-train events and self verification,
- o coaching of the SO by supervision,
- o fitness-for-duty verification testing of the SO, and
- o human performance interviewing of the SO.

In order to address potential generic implications of the event, managers discussed the event with their groups, including briefings of shift operating and maintenance crews.

2. The second event occurred on 04-20-92 as described in the NOV. The cause of this event was also determined to be personnel error. One Instrumentation and Control (I&C) technician read the identification number wrong and the second employee, who was to verify the proper identification, looked at the label but also failed to identify that the incorrect component had been selected.

In that this event was also associated with rendering wrong unit equipment inoperable, corrective actions were broadened to address potential generic concerns. These corrective actions included:

- o coaching the I&C technicians by supervision,
 - o fitness-for-duty verification testing of the technicians involved,
 - o human performance interviewing of the technicians involved,
 - o managers and/or supervisors meeting with their groups to discuss the 04-13-92 and 04-20-92 events, and
 - o Maintenance Manager issuing a memo to all maintenance personnel to require each journeyman and apprentice assigned to a maintenance activity to independently (without discussion with partner) verify that the component about to be worked is indeed the component specified in the work control document.
3. The third event occurred on 04-29-92 as described in the NOV. Personnel error was the cause of this event with two Operations personnel relying on incorrect and unverified assumptions. On the morning following the third event, the General Manager convened a special meeting of plant managers to discuss the three events, perform more in-depth root cause analysis, and establish a course of action.

Actions for the specific operations individuals involved consisted of:

- o temporarily removing the Shift Foreman and Systems Operator from shift,
- o remedial training of both personnel with emphasis on wrong-unit, wrong-train events and self verification, and
- o discipline was issued to the Shift Foreman and System Operator.

Corrective Steps To Avoid Further Violations

SNC management has established the following plant wide actions aimed at decreasing the number of personnel errors:

- o Farley Nuclear Plant will take steps to further strengthen and publicize its existing self-verification work program.
- o Farley Nuclear Plant has established a program of preparing brief synopses of significant plant personnel errors. These synopses are being used for briefing plant groups and individuals to heighten awareness of errors and their effect on plant safety and reliability.
- o Farley Nuclear Plant has established a program to upgrade component labeling for motor control centers, load centers, 4160 volt switchgear and instruments in the Diesel Building and Service Water structure.
- o Farley Nuclear Plant will continue to utilize the management team approach to address future events involving significant personnel errors.

In addition, SNC requested a third-party evaluation to review the events and determine if the root causes identified were valid. The Institute of Nuclear Power Operations (INPO) performed the review. INPO, while offering some recommendations, generally concluded that the root cause analysis performed was sound.

Date of Full Compliance

August 15, 1992.

Confirmation

I affirm that this response is true and complete to the best of my knowledge, information, and belief. The information contained in this letter is not considered to be of a proprietary nature.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY


J. D. Woodard

JDW/SMA/EFB:map 2700

cc: Mr. S. D. Ebnetter
Mr. S. T. Hoffman
Mr. G. F. Maxwell

ATTACHMENT

In addition to the cited violation NOV 92-12, the NRC stated in its cover letter that this violation is related to previous violation 92-09 and similar to violations 91-10 and 91-19. The NRC also stated that recurring violations are of particular concern because the NRC expects licensees to learn from their past failures and to take effective corrective actions.

SNC is concerned about the occurrence of these events and the continuing occurrence of events caused by personnel error. However, the root causes of these events do not seem to be related other than fitting into the general cause category of personnel error. It is important to note that these personnel errors were made by well intentioned employees who set out to do the work right and yet made mistakes. SNC efforts to reduce these kinds of events will continue to focus on each employee's awareness of their susceptibility to being involved in personnel errors and the need for attention to detail and self checking in every activity.

Below is a discussion of the events prior to the April 1992 events which were referenced in the NOV 92-12-01 NRC cover letter.

NOV 91-10-01

SNC responded to NOV 91-10-01 by letter to the NRC on June 26, 1991. Operational events occurring in April 1991 and resulting from personnel errors were cited in the violation. However, these events were unrelated to the events cited in the subject NOV 92-12-01. The events were diverse with unique circumstances affecting the personnel involved. The following is a brief description of these events and causes.

1. On April 16, 1991, the Shift Supervisor did not issue a clearance/hold tag when he instructed contractor personnel to close valve Q1P16V514 due to a possible personnel safety concern. Additionally, contractor personnel closed the wrong valve (service water train supply valve Q1P16H53084A) causing a loss of service water to the containment coolers and subsequent loss of control room ventilation. The cause of this event was personnel error. The Shift Supervisor failed to control system boundaries in accordance with established procedure in that he authorized non-Operations personnel to manipulate a boundary valve.
2. On April 21, 1991, contractor personnel performed an unauthorized step (step 2) of the work sequence while performing activities associated with Maintenance Work Request (MWR) number 237243 Unit 1. The error resulted in the inlet and outlet service water lines for the "A" containment cooler not being properly changed. This created a potentially unisolable flow path. The Shift Supervisor specified on the MWR that only step 1 of the work sequence should be performed. The cause of this event was personnel error. The workers did more work than was authorized on the MWR.
3. On April 23, 1991, in performance of certain work requests, electricians performed valve manipulations creating an unauthorized flow path from the reactor water storage tank to the containment sump, allowing approximately 4500 gallons to drain to the sump. The cause of this event was personnel error. The Shift Supervisor failed to adequately control work activities in that he did not release the work in a manner that prevented the valves from being opened at the same time.

4. On May 5, 1991, personnel failed to establish communications as required by procedure FNP-0-RCP-0 while performing maintenance activities on the "A" incore detector per the MWR with licensee personnel performing monitoring activities inside Unit 1 containment. The cause of this event was personnel error. The Health Physics Foreman failed to ensure that the incore detector drive box and seal table areas were secure prior to allowing the "A" incore drive to be checked for proper operation. He failed to recognize that procedure FNP-0-RCP-0 should have been used for guidance in this situation.

Farley Nuclear Plant requested a third party evaluation following these 1991 events to review the events and determine if the root causes identified were valid. INPO performed the review and generally concluded that the root cause analysis was proper. Further, SNC met with the NRC after the 1991 events and apprised them of the events, causes, and corrective actions taken and planned.

SNC has reviewed these 1991 events and compared the specific circumstances and causes of personnel errors with the 1992 events cited in the subject NOV 92-12-01. It cannot be reasonably concluded that proper corrective actions taken as a result of the April and May 1991 events would have precluded the April 1992 events.

NOV 91-19-01

SNC responded to NOV 91-19-01 by letter to the NRC on November 25, 1991. This violation was caused by personnel error in that personnel involved failed to adequately ensure proper valve position. This event, other than fitting the general cause category of personnel error, is very different than the subject NOV 92-12-01 events. The violation did not involve wrong-unit/wrong-train type events cited in the subject NOV 92-12-01. The violation centered on a failure to open a valve following maintenance. The personnel error involved employees having a preconceived expectation regarding the existing valve condition. The corrective actions included a) training on valve operation and construction; and b) procedure revisions to stress the need to obtain positive valve movement using multiple indications when performing valve operations. This is a different situation than the events in NOV 92-12-01. It cannot be reasonably concluded that proper corrective actions taken as a result of the event in NOV 91-19-01 would have precluded the April 1992 events.

NOV 92-09-01

SNC responded to NOV 92-09-01 by letter to the NRC on May 29, 1992. This violation, which involved reactor trips in 1990 and 1992 due to high neutron flux effects, was unrelated to the subject NOV 92-12-01 in many respects. The cause of NOV 92-09-01 was personnel error in implementing and tracking corrective actions in a timely manner. The errors included a) confusion over whether corrective actions had been approved and should be implemented and b) mistakenly assuming that all corrective actions had been completed when it was verified that the LER action items were complete. (Corrective actions identified after the 30-day LER period were not tracked to completion.) The issue in NOV 92-09-01 was lack of timeliness in implementing and tracking corrective action. This was not the issue in NOV 92-12-01. The lack of timeliness associated with NOV 92-09-01 spanned a period of two years. The timeframe of events involved in the subject NOV 92-12-01 was only three weeks. It cannot be reasonably concluded that changes to the SNC corrective action processes or program as a result of NOV 92-09-01 would have precluded the April 1992 events.