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Southern Nuclear Operating Company
the southern electric system

February 21, 1996

Docket Numbers: 50-348
50-364

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

Joseph M. Farley Nuclear Plant (FNP)
Reply to Notice of Violation (VIO)
NRC Inspection Report Numbers 50-348/95-20 and 50-364/95-20

Ladies and Gentlemen:

As requested by your transmittal dated January 23, 1996, this letter responds to VIO 50-364/95-20-03, "Reactor Startup With Disconnected NIS IR Detector (NI-36)." The Southern Nuclear Operating Company (SNC) response to this violation is provided in Attachment 1 to this letter. Attachment 2 contains the response to the additional information requested in the NRC's transmittal letter for SNC's plans for identifying the common causes associated with personnel errors at FNP and improving human performance.

Confirmation

I affirm that the responses are true and complete to the best of my knowledge, information, and belief.

Respectfully submitted,

Dave Morey

DRC\maf: nov-ni36.doc

Attachments
1. Response to VIO 50-364/95-20-03
2. Response to Additional Requested Information

cc: Mr. S. D. Ebneter, Region II Administrator
Mr. B. L. Siegel, NRR Senior Project Manager
Mr. T. M. Ross, FNP Resident Inspector

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ATTACHMENT 1

RESPONSE TO VIO 50-364/95-20-03

VIO 50-364/95-20-03 states the following:

Technical Specifications (TS) Table 3.3-1 of Limiting Condition for Operation (LCO) 3.3.1 requires a minimum of two operable intermediate range neutron flux channels during Modes 1, 2, and whenever reactor trip breakers are closed with fuel in the vessel and control rods capable of withdrawal. The provisions of this specification are not exempt from TS 3.0.4 which requires that entry into an Operational Mode or specified condition shall not be made unless the conditions of the LCO are met without reliance on the applicable Action Statements.

Contrary to the above, on November 29, 1995, the Unit 2 reactor trip breakers were closed (with fuel in the vessel and control rods capable of withdrawal) w' 'e only one of two intermediate range neutron flux detectors was operable. The inoperable intermediate range detector (NI-36) had been inadvertently left disconnected following its replacement the previous day. Operators did not discover that NI-36 was inoperable until after Unit 2 also entered Mode 2.

Admission or Denial

The violation occurred as described above in the Notice of Violation.

Reason for Violation

The cause of this event was cognitive personnel error due to inadequate self checking in that an individual inappropriately signed for completing a procedure step which had not been performed. A contributing cause was that the procedure did not require a verification sign-off per the guidelines found in the writer's guide for maintenance procedures.

Additional Information

At approximately 2011 on November 29, 1995, while in mode 3, Unit 2 entered a specified condition prohibited by Technical Specifications (TS) in that the control rod drive system was capable of rod withdrawal with the reactor trip breakers closed and fuel in the reactor vessel with an intermediate range neutron flux detector (NI-36) inoperable. Subsequently, at 2154 Unit 2 entered an operational mode prohibited by TS in that entry into mode 2 was achieved with NI-36 inoperable.

Prior to a Unit 2 reactor trip on November 28, 1995, NI-36 had been declared inoperable due to indicating lower than expected at 100 percent power. With Unit 2 in mode 3 on November 28, 1995, maintenance was scheduled for NI-36. Maintenance performed included drawer checks, power supply checks, and detector replacement.

As part of the maintenance procedure, evening shift technicians disconnected the detector drawer cables associated with a source range neutron flux detector (NI-32) and NI-36 (the two detectors are in a common housing). Following NI-36 replacement, evening shift personnel had satisfactorily signed procedural steps performed and provided turnover to the night shift crew. This turnover included the fact that detector drawer cables for NI-32 and NI-36 were disconnected and the NI-36 detector drawer was powered up. The night shift technicians proceeded with activities associated with returning NI-32 to service. During work activities on NI-32, a technician correctly signed off the completion of steps which included the re-connecting

of the detector drawer cables for NI-32. One of the procedures in use by the technicians included instructions and sign-offs associated with the calibration and re-connection of the intermediate range detector drawer cables on NI-36. The technician was aware that the detector drawer cables on NI-36 had not been re-connected. However, due to inadequate self checking, the technician inappropriately signed a procedure step indicating the NI-36 detector drawer cables had been re-connected.

Night shift personnel failed to inform day shift personnel concerning the fact that the detector drawer cables for NI-36 required re-connecting. The status of detector drawer cables on NI-36 had been documented in the summary section of the work order by evening shift personnel but was not noted by day shift personnel.

The drawer calibrations of NI-32 and NI-36 were completed and the nuclear instrumentation systems returned to service based on surveillance testing. However, due to the low neutron flux in mode 3, the surveillance testing that was performed did not have the capability of response checking the intermediate range detectors. Subsequently, a reactor startup was commenced. As the reactor startup continued, neutron flux indications which included NI-36 and the redundant intermediate range neutron flux detector (NI-35) were monitored. As NI-35 started to upscale from its lowest capable indication, the operator at the controls immediately noted a disparity in the intermediate range neutron flux channels in that NI-36 had not begun to upscale from pre-startup indications. This condition was observed with control rods stable at Bank D at 66 steps. In order to observe the startup rate response associated with NI-36, control rods were withdrawn to Bank D at 77 steps. During the control rod withdrawal, a startup rate was observed on the startup rate indicator associated with NI-35, but not NI-36. Control rod withdrawal was secured and it was determined that the detector drawer cables had not been re-connected. As a result, the control rods were manually inserted. Criticality had not been achieved. A subsequent review of recorded flux indications concluded that entry into mode 2 had been achieved with NI-36 inoperable. Following an additional review on January 23, 1996, it was concluded that during the time of NI-36 inoperability the specified condition of having the control rod drive system capable of rod withdrawal, with the reactor trip breakers in the closed position and fuel in the reactor vessel had been entered at approximately 2011 on November 29, 1995. This specified condition prohibited by TS was exited when NI-36 was returned to operable status at 2357 on November 29, 1995.

Corrective Actions Taken and Results Achieved

The detector drawer cables were re-connected and NI-36 returned to service.

Corrective Steps to Avoid Further Violation

The individual who inappropriately signed for completing a procedure step which had not been performed has been disciplined.

The Unit 1 and 2 NI calibration procedures have been revised to require a verification sign-off in accordance with the guidelines of the writer's guide for maintenance procedures.

Applicable maintenance personnel will be instructed on writer's guide usage concerning requirements for verification sign-offs.

A survey of I&C procedures will be performed to verify writer's guide requirements for verification sign-offs are being met. Any problems found during the survey will be corrected.

Date of Full Compliance

June 30, 1996

ATTACHMENT 2

RESPONSE TO THE ADDITIONAL INFORMATION REQUESTED FOR SNC'S PLANS FOR IDENTIFYING THE COMMON CAUSES ASSOCIATED WITH PERSONNEL ERRORS AT FNP AND IMPROVING HUMAN PERFORMANCE

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The incident report trending program has been enhanced to better identify common causes associated with personnel errors as stated in FNP's response to VIO 50-348, 364/95-08-03 dated 6/7/95. FNP plans to continue to strive for improvement in human performance through the evaluation of common causes of personnel errors. Management attention will continue to be focused on the improvement of human performance by informing plant personnel of personnel errors and their common causes through various forums such as group meetings, training programs, and plant information meetings.