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SUBJECT: Responds to NRC 970605 ltr re violations noted in insp repts 50-259/97-05,50-260/97-05 & 50-296/97-05.Corrective actions: Unit Supervisor removed from shift duties & reclassified & operating crews briefed.

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Christopher M. (Chris) Crane
Vice President, Browns Ferry Nuclear Plant

July 1, 1997

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

10 CFR 2.201

Gentleman:

In the Matter of	)	Docket Nos.	50-259
Tennessee Valley Authority	)		50-260
			50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - NRC INSPECTION REPORT 50-259, 50-260, 50-296/97-05 - REPLY TO NOTICE OF VIOLATION (NOV)

This letter provides TVA's reply to the subject NOV transmitted by letter from M. S. Lesser, NRC, to O. D. Kingsley Jr., TVA, dated June 5, 1997. In the letter, two violations of NRC requirements were identified. The first violation involved the failure of the control room personnel to promptly reset a locked reactor recirculation pump scoop tube under runback conditions. The second violation addressed two examples of inadequate self checking and second-party verification when performing Surveillance Instruction steps. TVA admits these violations.

The Enclosure contains the reply to the NOVs. No commitments are made in this reply. If you have any questions, please contact me at (205) 729-3675.

Sincerely,

C. M. Crane
Site Vice President

Enclosure

Enclosure
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ENCLOSURE

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3

INSPECTION REPORT NUMBER 50-259, 50-260, 50-296/97-05
REPLY TO NOTICE OF VIOLATION (NOV)

RESTATEMENT OF VIOLATION A

"Technical Specification 6.8.1.1 requires that written procedures shall be established, implemented and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Paragraph 4 of Appendix A of Regulatory Guide 1.33 recommends procedures for the operation of the Nuclear Steam Supply System (Vessel and Recirculating System).

Operating Instruction 3-OI-68, Reactor Recirculation System, Revision 9, Section 8.8.1.7, requires that if conditions are present that require a Recirc Pump runback, depress pushbutton, Scoop Tube 3A(3B) reset, on Recirc Pump with the scoop-tube-lock and verify Recirc Pump runs back.

Contrary to the above, written procedures were not implemented in that, on April 1, 1997, the Unit Operator failed to depress the Scoop Tube 3B Reset pushbutton for a period of about four minutes when conditions were present that required a recirculation pump runback.

This is a Severity Level IV Violation (Supplement I), applicable to Unit 3 only."

TVA's REPLY TO THE VIOLATION

1. Reason For The Violation

The root cause of the violation was a failure of the Unit Supervisor (US) to maintain a broad overview of the plant during an abnormal condition. Specifically, the US became involved in directing actions to recover from the trip of Reactor Feed Pump Turbine (RFPT). As such the US failed to provide positive direction to the Unit Operator (UO) to ensure that required automatic actions had been accomplished.

Abnormal Operating Instruction (AOI), 3-AOI-3-1, Loss of Reactor Feedwater or Reactor Water Level High/Low, requires that at a reactor water level of 27 inches, and if the discharge flow of a Reactor Feed Pump is less than 889,000 lb/hr, the UO is to ensure the Reactor Recirculation Pumps receive a runback signal. A Reactor Recirculation Pump run back is required to reduce reactor power to a level that is within the capability of the remaining Reactor Feedwater Pumps.

On April 1, 1997, BFN Unit 3 experienced a trip of Reactor Feedwater Pump Turbine 3B. The resulting transient caused reactor level to drop below the level required to initiate the 75 percent speed limiter runback on the Reactor Recirculation Pumps. The remaining Reactor Feedwater Pumps were controlling reactor water level and were returning it to normal. Reactor Recirculation Pump 3A automatically ran back, but 3B had a scoop tube lock in place and did not automatically runback. The scoop tube on was electrically locked in place to prevent movement, and thus prevent reactor recirculation flow fluctuations. Therefore, operator action was required in order to make Reactor Recirculation Pump 3B run back to the desired speed.

The UO recognized the need to reset the recirculation pump scoop tube lock when the Reactor Feedwater Pump turbine trip occurred. However, because the reactor level was returning to normal, the UO was unsure if resetting the scoop tube lock was appropriate. Consequently, the UO turned to the US for guidance. When the UO questioned the US about the scoop tube lock, the US was engaged in diagnosing the cause of the Reactor Feedwater Pump Turbine trip and failed to provide positive guidance. Consequently, the UO did not reset the scoop tube lock for approximately 4 minutes.

2. <u>Corrective Actions Taken And Results Achieved</u>

The US involved in this event was removed from shift duties and reclassified. The operating crews have been briefed on this event. The briefing emphasized management expectations with respect to communications. Furthermore, the briefing emphasized responsibility to take immediate actions per the AOIs without waiting for the US's concurrence.

3. Corrective Steps That [Have Been Or] Will Be Taken To Prevent Recurrence

The Operations Manager or Operations Superintendent is observing the performance of each operating crew during a simulator scenario which is based on a set of events similar the event described in this violation. Feedback on the performance is provided to each operating crew.

4. Date When Full Compliance Will Be Achieved

TVA is in full compliance.

RESTATEMENT OF VIOLATION B

"Technical Specification 6.8.1.1.c requires that written procedures shall be established, implemented and maintained covering surveillance and test activities of safety-related equipment.

Step 7.17.23.2 of Surveillance Instruction 2-SI-4.2.B. ATU(C), Core and Containment Cooling Systems Analog Trip Unit Functional Test, Revision 18, requires that a Volt-Ohm-Meter be connected across contacts M1-T1 of Relay 2-62-3-208C.

Section 7.6 of Surveillance Instruction 3-SI-4.2.B-38FT, High Pressure Coolant Injection System Steam Supply Low Pressure Functional Test, Revision 1, requires that a Volt-Ohm-Meter set on the resistance scale, be connected between 3-TB-073-0111/KK-18 and 3-TB-073-0111/KK-19 during testing of pressure switch 3-PS-073-0001A.

Contrary to the above, written procedures were not implemented in that:

1. On April 24, 1997, during the performance of step 7.17.23.2 of Surveillance Instruction 2-SI-4.2.B.-ATU(C), workers connected the Volt-Ohm-Meter across contacts for Relay 2-62-3-208A instead of relay 2-62-3-208C. This action resulted in a reactor scram.

2. On April 10, 1997, during the performance of Section 7.6 of Surveillance Instruction 3-SI-4.2.B-38 FT, workers did not properly connect the Volt-Ohm-Meter between connection points 3-TB-073-0111/KK-18 and 3-TB-073-0111/KK-19. This action caused the inadvertent closure of two High Pressure Coolant Injection system steam supply valves.

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

TVA's REPLY TO THE VIOLATION B

EXAMPLE 1

1. Reason For The Violation

The root cause of this example was personnel error in that the craftsmen did not continuously perform self checking. They properly located the relay to be tested but then broke eye contact with the relay to physically access the test jacks. While connecting the leads, the craftsmen focused on connecting the test leads to the terminal but failed to reverify that they were on the correct relay. Consequently, the test leads were incorrectly placed on relay 2-63-208A instead of 2-63-208C, as required by the Surveillance Instruction (SI).

Contributing Factors:

Labels identifying relays 2-63-208A and 2-63-208C are clearly visible from a standing position. However, the labels are not visible when connecting test equipment to any of the two lower rows of terminals on the relay base.

2. Corrective Steps Taken And Results Achieved

TVA administered personnel corrective actions in accordance with TVA policy to those involved in this example.

Appropriate maintenance personnel have been briefed on management expectations for the performance of instruction steps requiring second-party verification.

TVA has instructed instrument maintenance personnel (IMs) that all components in steps requiring second-party verification must be identified by the placement of a tag such that if visual contact with the component is subsequently lost, the tag will enable the IMs to easily locate the correct component.

TVA placed supplemental labels under the subject relays to facilitate placement of the test leads.

3. Corrective Steps That [Have Been Or] Will Be Taken To Prevent Recurrence

As a result of Examples 1 and 2 of this violation, TVA has taken several actions to address the human performance aspects:

- TVA has included specific human performance lessons learned in pre-job briefings.

- In order to focus attention on critical activities, TVA has modified the Scheduled Surveillance Sections of the Browns Ferry "Plan of the Day" to indicate which SIs could potentially cause a half-scram, an engineered safety feature actuation, or a turbine trip.

- TVA has increased management observation of the performance of SIs.

- TVA has focused on improving pre-job briefings and making better use of pre-job briefings.

- To foster a deeper sense of accountability for the maintenance shops and crews, TVA has emphasized accountability for personal actions at the general foreman, foreman, and shop manager levels.

4. Date When Full Compliance Will Be Achieved

TVA is in full compliance.

TVA's REPLY TO THE VIOLATION B

EXAMPLE 2

1. Reason For The Violation

This example resulted from personnel error due to a lack of self checking and second-party verification.

IMs performing an Surveillance Instruction connected volt-ohm meter (VOM) leads to the wrong pressure switch contacts. When the pressure switch under test was valved out and its contacts closed, the VOM completed the circuitry, actuated the isolation logic, and resulting in HPCI's inability to perform its intended function.

2. Corrective Steps Taken And Results Achieved

Operations personnel stopped IMs testing and returned HPCI to standby readiness.

TVA administered personnel corrective actions in accordance with TVA policy to those involved in this example.

Training of personnel involved in this event was conducted to heighten their awareness about negative consequences of their actions on plant operations.

Additionally, plant standdown meetings were conducted to ensure plant personnel understood management expectations for self checking and second-party verification.

3. Corrective Steps That [Have Been Or] Will Be Taken To Prevent Recurrence

Since this example occurred before Example 1 of this violation, it was considered an isolated event. However, when the Example 1 also happened, TVA took additional steps as depicted in Section 3 of Example 1 above to preclude recurrence.

4. Date When Full Compliance Will Be Achieved

TVA is in full compliance.