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**DUKE POWER**

January 27, 1995

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

Subject: McGuire Nuclear Station, Units 1 and 2  
Docket Nos. 50-369 and 50-370  
NRC Inspection Report No. 50-369, 370/94-25  
Violation 50-369, 370/94-25-01, 50-369, 370/94-25-02 and 50-369, 370/94-25-03  
Reply to a Notice of Violation

Gentlemen:

Enclosed is a response to a Notice of Violation dated December 30, 1994 concerning component mispositioning events. The response addresses Violation 50-369, 370/94-25-01 (Valve 2CF20 incorrectly configured to ensure proper operation); Violation 50-369, 370/94-25-02 (Reactivity addition caused by mispositioned valve 1NV381) and Violation 50-369, 370/94-25-03 (Valve mispositioning caused by failure to follow procedures).

The corrective actions outlined in the response address specific actions either implemented or planned to prevent recurrence of the violation. In addition to these specific corrective actions, the following additional corrective actions will be implemented at McGuire Nuclear Station:

1. Operations and Chemistry management have raised awareness concerning mispositioning events through group written communications. Mispositionings will be addressed daily at Site Direction Meetings for awareness and consideration of appropriate actions for specific events.
2. Root valve labeling will be completed by July 31, 1996.
3. Revise existing Operations training on valve/breaker operation by February 28, 1995. The retraining and qualification of all operators on associated tasks will be completed by May 1, 1995.
4. Conduct a plant survey by February 28, 1995 to identify components subject to being bumped out of position.
5. Implement a site wide technical procedure validation program by June 1, 1995.
6. Evaluate the General Office Assessment Group recommendations by April 1, 1995. Implementation dates for approved recommendations will be determined by McGuire management.
7. Evaluate the FPI recommendations by April 1, 1995. Implementation dates for approved recommendations will be determined by McGuire management.

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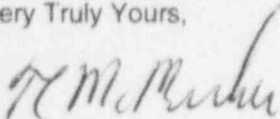
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U. S. Nuclear Regulatory Commission  
January 27, 1995

We are confident these initiatives will improve our performance and we will be measuring our progress in 1995 to ensure improvement.

Should there be any questions concerning this response, contact Randy Cross at (704) 875-4179.

Very Truly Yours,



T. C. McMeekin

Attachment

xc: (w/attachment)

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**McGuire Nuclear Station  
Reply to a Notice of Violation**

Violation 50-369, 370/94-25-01

- A. 10 CFR 50, Appendix B, Criterion III, Design, required that measures be established to ensure that applicable regulatory requirements and design basis for safety-related equipment should be correctly addressed in specifications, drawings, procedures and instructions.

10 CFR 50, Appendix B, Criterion V, Instructions, Procedures and Drawings, states that work activities that affect safety-related equipment shall be prescribed by documented instructions, procedure or drawings.

Contrary to the above, on October 12, 1994, with Unit 2 at 100 percent power, the licensee discovered that main feedwater regulating valve 2CF20 had a mechanical restriction that could have prevented full closure of the valve on a feedwater isolation signal. The FSAR requires the valve to fully close as a means of providing redundant protection during a feed or steamline break accident. Neither procedure nor instructions ensured that the correct safety configuration of the valve was maintained.

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

Reply to Violation 50-369, 370/94-25-01

1. Reason for the violation:

The reason for the violation is Inadequate Procedure. Procedure IP/O/A/3222/01 did not include steps to verify and document the handwheel gag position before and after maintenance.

2. Corrective steps that have been taken and the results achieved:

- a. Upon discovery, immediate corrective action was taken to fully retract the handwheel gag ensuring full closure of valve 2CF20. This corrective action was completed on October 12, 1994.
- b. Maintenance personnel performed a visual inspection of valves 2CF17, 2CF23 and 2CF32 to verify the handwheel gags were fully retracted. All handwheel gags were found in the fully retracted position. This corrective action was completed on October 12, 1994.
- c. Maintenance procedure IP/O/A/3222/01 was revised to add a step to verify and document the handwheel gag position before and after maintenance. This corrective action was complete on December 12, 1994.

No similar events have occurred since implementation of these corrective actions.

3. Corrective steps that will be taken to avoid further violations:

No further corrective actions are planned.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.

Violation 50-369, 370/94-25-02

- B. Technical Specification 6.8.1, Procedures and Programs, requires that procedures be adequately written to cover the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, which includes licensee procedures controlling operation and maintenance of safety-related systems.

Contrary to the above, on November 25, 1994 with Unit 1 at 100 percent power, reactor power increased above 100 percent. The operator at the controls was not able to reduce power by emergency boration. Subsequent investigation revealed that CP/O/A/8400/10, "Boric Acid Addition to the Boric Acid Storage Tank," incorrectly required a Chemistry technician to close the Boric Acid Tank #1 Outlet valve, 1NV381. As a result, the boric acid pumps could not be used for normal or emergency boration.

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

Reply to Violation 50-369, 370/94-25-02

1. Reason for the violation:

The reason for the violation is Inadequate Procedure. During a revision of Chemistry procedure CP/O/A/8400/10, Boric Acid Addition to the Boric Acid Tanks, on October 17, 1994, valve 1NV381, an Operations controlled valve, was inadvertently added to procedure steps 4.7.4.1 and 4.7.4.2 instructing personnel to close valve 1NV381. This section of the revised procedure was first used on November 25, 1994.

2. Corrective steps that have been taken and the results achieved:

- a. Operations personnel immediately inserted the control rods to achieve less than or equal to 100 percent reactor power and normal reactor coolant system temperature.
- b. Operations personnel immediately contacted Chemistry personnel involved in the work and it was determined that valve 1NV381, suction to Unit 1 Boric Acid Tank pumps, had been closed by Chemistry personnel during performance of the procedure for realignment of the Boric Acid tanks. Chemistry personnel immediately reopened valve 1NV381 at the direction of Operations.
- c. Procedure CP/O/A/8400/10, was placed on administrative hold on November 25, 1994 pending correction and verification.
- d. Operations personnel verified that boric acid had been reestablished from both normal and emergency paths and the control rods were returned to their normal operating positions to achieve stable operation of Unit 1.
- e. Procedure CP/O/A/8400/10 was revised to correct the identified deficiencies and Operations personnel reviewed the procedure revision to insure conformance with operating requirements. The procedure revision was approved on December 16, 1994.

3. Corrective steps that will be taken to avoid further violations:

- a. A procedure validation program will be implemented for Chemistry procedures by April 1, 1995.
- b. A list of Chemistry procedures requiring cross disciplinary review by Operations, when revised, will be developed by April 1, 1995.
- c. Training will be provided to Chemistry technicians on remote valve positioning by July 1, 1995.
- d. McGuire Engineering will evaluate the need to implement a nuclear station modification (NSM) to provide separate indication circuits for boric acid flow alarm circuits. This evaluation will be completed by June 1, 1995.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.



Violation 50-369, 370/94-25-03

- C. Technical Specification 6.8.1, Procedures and Programs, requires that written procedures should be properly implemented during activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, which includes licensee procedures controlling operation and maintenance of safety-related systems.

Contrary to the above requirements, on several occasions during the past year plant personnel failed to follow procedures which resulted in valves being mispositioned:

1. On October 28, 1994, with Unit 1 at 30% power, the 1B DG was rendered inoperable because of low diesel generator starting air pressure, which was attributed to a failure of maintenance personnel to follow the prescribed steps in OP/1/A/6350/04A, Enclosure 4.5 "DG 1B Auxiliary Equipment Operation." when tagging the starting air system for maintenance.
2. On September 30, 1994, with the plant in Mode 5, the licensee found the block valve for Unit 1 pressurizer power operated relief valve closed during reactor coolant system filling and venting, which placed the plant in a configuration with inadequate overpressure protection. The Controlling Procedure for Plant Shutdown, OP/1/A/6100/02, Enclosure 4.2, step 3.4174; OP/1/A/6150/01, Filling and Venting the Reactor Coolant System, step 2.2; and PT/1/A/4600/03A, Semi-Daily Surveillance Procedure, Enclosure 13.1 required the block valve for 1NC32 to be open during Mode 5 and filling and venting the reactor coolant system.
3. On May 19, 1994, the licensee found control room ventilation system intake valves, 1VC1, 1VC2, 1VC3 and 1VC4, in the closed position. Following a surveillance on radiation monitors, the valves were inadvertently left closed for three days. Plant operations procedure, OP/O/A/6450/11, Control Area Ventilation/Chilled Water System, Enclosures 4.1 and 4.11, requires these valves to be opened during normal lineup.
4. On September 9, 1994, during the recent Unit 1 refueling outage, the licensee found the fire water header to containment isolation valve, 1RF821, closed. The Controlling Procedure for Plant Shutdown, OP/1/A/6100/002, Enclosure 4.2, step 3.86 required the valve to be open. The valve was determined to have been mispositioned for three and one-half days.

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

Reply to Violation 50-369, 370/94-25-03 (Example 1)

1. Reason for the violation:

The reason for the violation is failure to follow procedure OP/1/A/6350/04A, Enclosure 4.5 "DG 1B Auxiliary Equipment Operation" when tagging the starting air compressor for maintenance. In addition, Operations personnel used a pre-planned tagout which had not been updated to reflect a nuclear station modification (NSM-12279) to the VG system.

2. Corrective steps that have been taken and the results achieved:

- a. Operations personnel immediately cross-tied the VG tanks to restore the 1B2 VG tank to normal operating pressure.
- b. Operations management communicated to all Operations shift crews that tagout pre-plans are not controlled documents and need to be thoroughly reviewed prior to use and that pre-plans are not to be used in place of existing procedures. This corrective action was completed on January 27, 1995.

3. Corrective steps that will be taken to avoid further violations:

Operations will evaluate the need to upgrade the existing tagout preplans to controlled document status. This evaluation will be completed by March 1, 1995.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.



Reply to Violation 50-369, 370/94-25-03 (Example 2)

1. Reason for the violation:

The reason for the violation is unknown. Since no evidence can be found to confirm when the control board switch for block valve 1NV31 was moved from the open position, the cause of the switch being repositioned is unknown. Subsequent investigation revealed the switch block was rotated out of alignment on the control board, indicating block valve 1NV31 was open when the valve was actually closed. The reason for the switch block misalignment is an Inadequate Procedure. Procedure OP/O/A/6100/27, used for the installation of control board overlays, did not include steps to verify proper switch positions.

2. Corrective steps that have been taken and the results achieved:

- a. Operations personnel immediately opened 1NC36 and subsequently opened 1NC31.
- b. Operations personnel immediately checked the other control board switches similar in type on the MC-10 control board to ensure they were properly reinstalled in the panel. No additional switch misalignments were identified.
- c. Procedure OP/O/A/6100/27 was revised to include steps to verify proper switch positions during the installation of the control board overlay. This corrective action was completed on December 12, 1994.

3. Corrective steps that will be taken to avoid further violations:

No further corrective actions are planned.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.

Reply to Violation 50-369, 370/94-25-03 (Example 3)

1. Reason for the violation:

The reason for the violation is Inappropriate Action. The Senior Reactor Operator (SRO) failed to remember to reopen the VC air intake valves after completion of EMF preventative maintenance.

2. Corrective steps that have been taken and the results achieved:

Procedure IP/O/B/3006/09A was revised to include a sign off step to notify the control room reactor operator at the controls (ROATC) to close the associated VC valves during EMF maintenance as required by the Technical Specification within one hour. Upon completion of EMF preventative maintenance a sign step requires the ROATC to reopen the associated VC valves. This corrective action was completed on October 10, 1994.

3. Corrective steps that will be taken to avoid further violations:

An In-Plant Review will be conducted to assess the effectiveness of a Configuration Control program. This corrective action will be completed by April 1, 1995.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.

Reply to Violation 50-369, 370/94-25-03 (Example 4)

1. Reason for the violation:

The reason for the violation is unknown. McGuire Engineering performed an analysis of possible causes for 1RF821 valve closure and determined the most likely cause was loss of air to the valve due to an alignment of instrument air valves.

2. Corrective steps that have been taken and the results achieved:

- a. Operations personnel immediately checked all Removal and Restorations (R&R), Block Tag Outs (BTO) and dispatched a non-licensed operator to visually inspect the valve for tags. After determining there was no valid reason for the valve to be in the closed position, the valve was reopened.
- b. McGuire Engineering personnel conducted an analysis of possible reasons for the valve to be in the closed position and determined the most likely cause was due to a loss of air to the valve during alignment of instrument air valves. This corrective action was completed on January 12, 1995.

3. Corrective steps that will be taken to avoid further violations:

No further corrective actions are planned.

4. Date when full compliance will be achieved:

McGuire Nuclear Station is now in full compliance.