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DUKE POWER

June 13, 1994

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, 370/93-33; 50-369, 370/93-32
and 50-369, 370/94-04
Reply to a Notice of Violation and Proposed Imposition of Civil Penalty

Gentlemen:

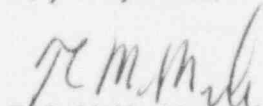
By letter dated May 16, 1994, NRC Region II issued a Notice of Violation and Proposed Imposition of Civil Penalty. This action follows NRC Inspection Report Nos. 50-369/93-33 and 50-370/93-33 concerning a special inspection conducted by an Augmented Inspection Team (AIT) at McGuire Nuclear Station during the period December 29, 1993 through January 4, 1994. An Enforcement Conference was held at Region II Headquarters in Atlanta, Georgia on March 21, 1994 to discuss the proposed violations.

Pursuant to 10 CFR 2.201, enclosed is the response to the Notice of Violation issued May 16, 1994. Also, attached is a check for the amount of One Hundred Thousand Dollars (\$100,000) as payment in full for the proposed civil penalty.

I declare under penalty of perjury that the statements set forth herein are true and correct to the best of my knowledge.

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

Very Truly Yours,


T. C. McMeekin

Attachment

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for \$100,000.00

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U.S. Nuclear Regulatory Commission
June 13, 1994

xc: (w/attachment)

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U.S. Nuclear Regulatory Commission
June 13, 1994

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McGuire Nuclear Station
Reply to a Notice of Violation and Proposed Imposition of Civil Penalty

I. Violation Assessed a Civil Penalty

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

10 CFR 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service, is identified and performed in accordance with written test procedures, which incorporate the requirements and acceptance limits contained in applicable design documents. Criterion XI also requires that test procedures shall include provisions for assuring that all prerequisites for the given test have been met, and that the test is performed under suitable environmental conditions.

Procedure MP/0/A/7200/11, "MSIV and Valve Actuator Corrective Maintenance," was established to provide for maintenance of the main steam isolation valves (MSIV).

Procedures PT/2/A/4255/03A and 03B, "SM Train A (B) Valve Stroke Timing - Shutdown," were established to test the "A" and "B" train MSIVs.

Contrary to the above, as of December 27, 1993, the procedure conducting maintenance on the MSIVs did not include appropriate acceptance criteria and the procedures for testing the MSIVs did not contain provisions to conduct the tests under suitable environmental conditions as evidenced by the following examples:

1. Procedure MP/0/A/7200/11 was inadequate in that appropriate acceptance criteria for MSIV yoke rod guide clearances were not established to ensure that a proper clearance existed between the valve yoke rods and the yoke rod guides when the valve was at operating temperature.
2. Procedures PT/2/A/4255/03A and 03B did not include provisions to assure that MSIV testing was conducted at normal operating temperature.

On December 27, 1993, these deficiencies resulted in the failure of "B" steam generator MSIV 2SM-5 to fully close and seat and the "A" steam generator MSIV 2SM-7 to fully stroke closed to prevent leakage on a steam line isolation signal. (01013)

This is a Severity Level III violation. (Supplement I)
Civil Penalty - \$100,000.

Response to Violation I.

1. Admission or Denial of the Alleged Violation:

McGuire Nuclear Station admits the violation.

2. Reasons for the Violation if Admitted:

The reason for the violation is Inadequate Procedures. Maintenance procedure MP/0/A/7200/11, "MSIV and Valve Actuator Corrective Maintenance," did not include appropriate acceptance criteria for MSIV yoke rod guide clearances to ensure that a proper clearance existed between the valve yoke rods and yoke rod guides when the valve was at operating temperature. The inadequate clearance resulted in binding, which prevented valve 2SM-5 from fully closing. The vendor recommended yoke rod guide clearance and hot stroke testing in a 1981 letter. At the request of Engineering, the MSIV vendor provided a general vendor manual update in April 1992 that included the correct clearances and installation instructions for the yoke rod guides. The 1981 vendor recommendations were not incorporated in the appropriate maintenance procedures. The updated vendor information was under review prior to officially revising the vendor manual. As such, the clearances and installation instructions had not yet been incorporated into maintenance procedure MP/0/A/7200/11.

Periodic Test procedures PT/2/A/4255/03A and 03B, "SM Train A(B) Valve Stroke Timing - Shutdown," did not contain provisions to assure that MSIV testing was conducted at normal operating temperature. The existing surveillance program for the MSIVs specified full stroke testing of the valves following modification or maintenance. These tests were performed with the valves at ambient temperature to avoid potential inadvertent safety injections upon reopening the MSIVs at operating temperature and pressure. This test method did not ensure the valves would meet the timing and stroke requirements at normal operating temperature.

3. Corrective Steps That Have Been Taken and the Results Achieved:

- a. Mechanical maintenance and Engineering personnel adjusted the yoke guide rods on valve 2SM-5 to allow the valve to fully close prior to restart.
- b. Mechanical maintenance personnel measured and reset yoke rod guide clearances for Unit 1 and 2 MSIVs at full operating temperature in accordance with maintenance procedure MP/0/A/7200/11, "MSIV and Valve Actuator Corrective Maintenance." This information was used to develop cold target values and to verify proper valve setup prior to returning Unit 2 MSIVs to service. This activity was completed on January 6, 1994.
- c. Prior to Unit 2 restart, Engineering personnel performed an assessment of the current state of updates to safety related documents and procedures due to vendor information changes. No items of safety significance were identified.

- d. The MSIV vendor manual was revised to include the vendor supplied yoke rod guide installation instructions and yoke rod to yoke rod guide clearances. The update to the vendor manual was completed on January 25, 1994.
- e. Nuclear System Directive (NSD) 204 "Operating Experience Program (OEP) Description" was revised to address the processing of vendor technical information. This was completed on June 9, 1994.
- f. A Nuclear Network Bulletin discussing the MSIV failure was issued on December 31, 1993.
- g. A Problem Investigation Process (PIP) was initiated for all outstanding Vendor Information Letters (VILs) and the Operating Experience Program (OEP) was enhanced to require a PIP to be initiated with each new VIL. These actions were completed on March 1, 1994.
- h. Periodic test procedures PT/1/A/4255/03C and PT/2/A/4255/03C were developed to verify full closure of each MSIV at full temperature and steam line pressure greater than or equal to 900 psig. PT/2/A/4255/03C was completed on January 3, 1994; PT/1/A/4255/03C was completed on January 6, 1994.
- i. Unit 2 MSIVs were stroke tested using procedure PT/2/A/4255/03C on January 5, 1994. Unit 1 MSIVs were stroke tested on April 7, 1994.
- j. System Engineering personnel reviewed Final Safety Analysis Report (FSAR) Chapter 10, Section 10.3 and Chapter 6, Section 6.2.4.4 for test requirements and/or commitments relating to the MSIVs. The review indicated the station is and has been in compliance with test commitments contained within the FSAR. Upon completion of the review, System Engineering personnel completed an FSAR change to clarify the wording of our current commitments and to include the new commitment to stroke the MSIVs at a Main Steam temperature greater than 350 degrees and pressure greater than or equal to 900 psig at least once per refueling outage. This FSAR change will be submitted in the next annual FSAR update scheduled six months following completion of the Unit 2 EOC9 outage.
- k. A comparison of testing practices at all three nuclear stations was performed which indicated there are no significant differences or problems related to safety-related or NRC committed testing programs. However, differences in the scope of testing for non-safety secondary systems were identified. The results of this comparison were outlined in a report dated April 18, 1994.

No similar violations have occurred since implementation of the above corrective actions.

4. Corrective Steps That Will Be Taken To Avoid Further Violations:

- a. As a follow up to corrective action 3.k. above, a Nuclear Generation Department testing practices team has been formed. This team will deliver a testing practices document to be used by all three nuclear stations by November 30, 1994.

- b. The Engineering Documents Manual will be revised to enhance equipment sponsor expectations for vendor documents. This will be completed by July 7, 1994.

5. Date When Full Compliance Will Be Achieved:

McGuire Nuclear Station is now in full compliance.

McGuire Nuclear Station
Reply to a Notice of Violation

II. Violations Not Assessed a Civil Penalty

- A. 10 CFR 50.59 provides, in part, that the licensee may make changes to the facility as described in the safety analysis report without prior Commission approval, unless the proposed change involves an unreviewed safety question. A proposed change shall be deemed to involve an unreviewed safety question if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased. A written safety evaluation shall be included which provides the bases for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, in August 1989, the written safety evaluation for modification NSM MG-22236, which changed the main turbine generator runback timing from 15 seconds to three minutes, failed to provide the bases for the determination that the change did not involve an unreviewed safety question in regard to an increase of the probability of a loss of offsite power. Specifically, the safety evaluation failed to address the switchyard relay protection coordination necessary to assure a source of offsite power in that the impact of the extended runback on the switchyard phase overcurrent relay, 51L, was not evaluated. It was subsequently determined that insufficient margin existed following a loss of offsite power path, to assure that the three minute turbine runback would reduce the current in time to avoid the loss of the redundant power path due to actuation of the 51L relay. (02014)

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

Response to Violation II.A

1. Admission or Denial of the Alleged Violation:

McGuire Nuclear Station admits the violation.

2. Reasons for the Violation if Admitted:

The reason for the violation is Inappropriate Action. Engineering personnel performed inadequate research into the design basis and licensing documentation (Final Safety Analysis Report) for the modification design and associated 10 CFR 50.59 evaluation.

3. Corrective Steps That Have Been Taken and the Results Achieved:

- a. A Temporary Modification was implemented to block 51L and 50/51G relay output signals, thereby removing the dependency on a turbine runback. The Temporary Modification was completed on December 31, 1993.
- b. A team was chartered to perform a detailed review of switchyard and plant relaying with potential for isolating McGuire's offsite power sources to ensure appropriate relay coordination and offsite power system reliability. This review included generator, busline and switchyard relaying related to independence of offsite power. The results of this review, documented in a report dated January 4, 1994, demonstrated that the busline relaying is adequately coordinated and that the independence of the two offsite power sources is not degraded.
- c. All past McGuire modifications that could potentially have a detrimental system interaction with the relaying for offsite power sources were screened and twenty-two candidates were identified. These candidates were reviewed in more detail and all were confirmed to not be a problem. This review was completed on January 4, 1994.
- d. The Electrical Modification Checklist was updated to address enabling existing system features. This was completed on April 26, 1994.

No similar violations have occurred since implementation of the above corrective actions.

4. Corrective Steps That Will Be Taken To Avoid Further Violations:

- a. Perform a Self Initiated Technical Audit (SITA) on the McGuire switchyard, unit main and medium voltage systems to review the philosophy and application of the relaying protection scheme and recommend improvements as appropriate. The SITA will be completed by September 1, 1994.
- b. Expand the Design Basis Documentation (DBD) program to include an Offsite Power DBD. The Offsite Power DBD will be completed by December 1995.
- c. Review the settings on the 50/50L and 50/51G switchyard relay outputs that were blocked using a Temporary Modification and determine a permanent solution. Implementation of a permanent solution will be completed by December 31, 1994.

5. Date When Full Compliance Will Be Achieved:

McGuire Nuclear Station is now in full compliance.

McGuire Nuclear Station
Reply to a Notice of Violation

II. Violations Not Assessed a Civil Penalty

- B. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings.

Contrary to the above, on December 28, 1993, activities affecting secondary cooldown during a loss of offsite power event were not accomplished in accordance with drawing MC-2499-SM.05, Rev.1A, which described the local operation of valves 2SM-83, 2SM-89, 2SM-95 and 2SM-101, drain valves for the A, B, C, and D main steam lines, respectively. Specifically, the drawing, as amended by modification MG22401/00, was not properly used to confirm that an air jumper placed on the above valves would, in fact, close the valves. This resulted in the valves being jumpered open. (03014)

This is Severity Level IV Violation. (Supplement I) (Applicable to Unit 2 only)

Response to Violation II.B

1. Admission or Denial of the Alleged Violation:

McGuire Nuclear Station admits the violation.

2. Reasons for the Violation if Admitted:

The reason for the violation is Inappropriate Action. The IAE technician demonstrated a lack of attention to detail by not noticing the NSM stamp on drawing MC-2499-SM5, Rev.1. Had the IAE Technician noticed the NSM stamp the technician would have known that Rev.1 of the drawing did not accurately reflect the equipment specification/configuration at that time and that additional information was needed. Had the fail safe position of the steam line valves been recognized as fail close, IAE would have reported to Operations Control Room personnel that the valves were in the desired position and no manipulation of the valves would have occurred.

3. Corrective Steps That Have Been Taken and the Results Achieved:

- a. Engineering personnel reviewed all Control Room Vital To Operation (VTO) drawings (mechanical flow diagrams and electrical one-line) and redmarked

applicable drawings to reflect all changes resulting from completed Nuclear Station Modifications (NSMs) and Minor Modifications (MMs). The revision of applicable Control Room VTO drawings was completed on January 4, 1994. Prior to implementation of this corrective action, Operations personnel responsible for redmarking Control Room VTO drawings (mechanical flow diagrams and electrical one-line) had deemed some modifications not operationally significant and did not redmark the applicable drawings.

- b. The Instrumentation and Electrical (IAE) manager conducted a briefing with all IAE supervisors who counseled all IAE personnel on this event with emphasis placed on attention to detail and emergency use of VTO drawings. These activities were completed on January 18, 1994.

No similar violations have occurred since implementation of the above corrective actions.

4. Corrective Steps That Will Be Taken To Avoid Further Violations:

No additional corrective actions are planned.

5. Date When Full Compliance Will Be Achieved:

McGuire Nuclear Station is now in full compliance.

McGuire Nuclear Station
Reply to a Notice of Violation

II. Violations Not Assessed a Civil Penalty

- C. 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," requires, in part, that the licensee notify the NRC Operations Center via the Emergency Notification System of the declaration of any of the Emergency Classes specified in the licensee's approved Emergency Plan. The licensee is required to notify the NRC immediately after notification of the appropriate State or local agencies and not later than one hour after the time the licensee declares one of the Emergency Classes.

Paragraph E.2.a of McGuire Nuclear Station Emergency Plan, Revision 3, Section E, "Notification Methodology," required the Shift Supervisor to assure prompt notification of Federal, State and local off-site authorities, including the NRC Operations Center (Bethesda, MD). Paragraph E.2.a also required that if an Unusual Event occurs, a site representative will call the NRC, the State, and appropriate local officials.

Paragraph P.7 of the McGuire Nuclear Station Emergency Plan, Revision 3, Section P., "Responsibility for the Planning Effort" required emergency procedures be established, implemented and maintained covering activities associated with emergency plan implementation.

RP/O/A/5700/10, "NRC Immediate Notification Requirements," required the Shift Supervisor to assure the notification requirements of this procedure were met, complete applicable portions of a checklist for significant event notification, transmit that information to the NRC utilizing facsimile and the Emergency Notification System immediately after notification to the State(s) and local government (Counties), and not later than one hour after the time the Emergency Class was declared.

Contrary to the above, the licensee declared an Unusual Event at 10:22 p.m., on December 27, 1993 due to a loss of offsite power event and failed to utilize Emergency Plan implementing procedure RP/O/A/5700/10, "NRC Immediate Notification Requirements," to make the notification to the NRC until 1:32 a.m. on December 28, 1993. (04014)

This is a Severity Level IV Violation. (Supplement VIII) (Applicable to Unit 2 only)

Response to Violation II.C

1. Admission or Denial of the Alleged Violation:

McGuire Nuclear Station admits the violation.

2. Reasons for the Violation if Admitted:

The reason for the violation is Inappropriate Action. The Operations Shift Supervisor failed to ensure the required NRC one hour notification was completed in accordance with procedure RP/O/A/5700/10 requirements. Specifically, the form required for the notification of States and counties was transmitted to the NRC Operations Center instead of the required NRC form due to the Control Room Shift Support Technician misunderstanding the group call feature on the dedicated facsimile machine. The same Control Room Shift Support Technician mistakenly thought the transmittal of the State and county notification form to the NRC was sufficient notification. In the same time period, the NRC called the Control Room to inquire about the facsimile and the Control Room Communicator thought the official one hour notification had already been made based on a conversation with the Control Room Shift Support Technician. As a result, the NRC was not verbally notified of the event within the required one hour time frame using the Emergency Notification System.

3. Corrective Steps That Have Been Taken and the Results Achieved:

- a. Operations Management Procedure (OMP) 2-2, Shift Turnover, was enhanced to designate a Senior Reactor Operator (SRO) as the offsite communicator to ensure proper notifications to offsite agencies are performed. This was completed on January 4, 1994.
- b. An immediate training package (Training Package # 94-001) was issued by Operations to address the OMP 2-2 change discussed in (a) above. In addition, emphasis was placed on the timeliness and accuracy of the information provided to offsite agencies. Training Package # 94-001 was completed by all Senior Reactor Operators (SROs) on January 5, 1994.
- c. Procedure RP/O/A/5700/10, "NRC Immediate Notification Requirements", was revised to include approval by the Shift Supervisor/Emergency Coordinator prior to transmittal of information to offsite agencies. This procedure revision was completed on January 5, 1994.
- d. Procedure changes for activation of the Emergency Organization were evaluated and determined that no changes were required prior to Unit 2 restart. The evaluation was completed on January 5, 1994. An Emergency Plan Implementing Procedure upgrade is addressed in section 4.a.
- e. The loss of offsite power event was covered in Segment 2 of licensed operator requalification by Operations management. The corrective actions for NRC notification and inaccurate communications were discussed. Segment 2 of requalification was completed on April 12, 1994.
- f. Emergency Plan Implementing Procedures RP/O/A/5700/01, RP/O/A/5700/02, RP/O/A/5700/03, RP/O/A/5700/04 and RP/O/A/5700/10 were upgraded to be more user friendly. This procedure upgrade was completed on April 25, 1994.

No similar violations have occurred since implementation of the above corrective actions.

4. Corrective Steps That Will Be Taken To Avoid Further Violations:

- a. Licensed operator requalification will continue to include operator practice on NRC notifications during simulator and classroom instruction.

5. Date When Full Compliance Will Be Achieved:

McGuire Nuclear Station is now in full compliance.