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DUKE POWER

December 11, 1992

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, 370/92-24
Violations 369,370/92-24-01, 369/92-24-05
Reply to a Notice of Violation

Gentlemen:

Enclosed is the response to the Notice of Violation issued November 13, 1992 concerning failure to perform a proper medical review of a Senior Reactor Operator and miswiring of the SSF Standby Makeup Pump motor resulting in reverse motor rotation and degraded lubrication.

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 369, 370/92-24-01

10 CFR 50, Appendix B, Criterion V, and the licensee's accepted Quality Assurance Program (Duke Power Company Topical Report, Duke-1-A), section 17.3.2.14, require 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.

Licensee's procedure, OMP 1-10, Maintenance of an NRC License, requires that any medical condition which results in a restriction being placed on an operator by a physician, shall be reported to the Occupational Health Supervisor at the site. Also, the Medical Review Officer shall be notified by the medical facility to review or evaluate the situation.

Contrary to the above, on October 15, 1992, a licensed Senior Reactor Operator resumed licensed control room duties, following corrective surgery to his foot. At the time, the individual was in a cast and had restrictions imposed on his activities by his physician. The Medical Review Officer was not notified to review or evaluate the situation.

This is a Level IV (Supplement 1) violation.

Reply to Violation 369, 370/92-24-01

1. Reason for the violation:

This violation resulted from failure to follow Operations Management Procedure (OMP) 1-10 when assigning medically restricted personnel to Technical Specification required positions.

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

The individual with medical restrictions was evaluated by the site Medical Review Officer (MRO) and the MRO made a determination of the individual's Technical Specification licensed watch-standing abilities based on his medical restrictions. Operations management complied with the MRO's recommendations and McGuire is presently in compliance with OMP 1-10.

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

A sign-off step has been added to the Shift Supervisor Turnover checklist to require an evaluation per OMP 1-10 of any medical or other restrictions placed on an individual that is assigned, or would be assigned a Technical Specification required position. An immediate training sheet has been added to the Shift Supervisor Turnover sheet. This will be followed up with an immediate training package with required sign-offs by each licensed SRO to be completed by January 7, 1993.

4. Date when full compliance will be achieved:

McGuire will be in full compliance by January 7, 1993.

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

Violation 369/92-24-05

The Operating License for McGuire Nuclear Station Unit 1, paragraph 2.(4) states, in part, "The licensee shall maintain in effect and fully implement all provisions of the approved fire protection plan and the NRC staff's McGuire Safety Evaluation Report Fire Protection Review in Supplement No. 2 to the McGuire Nuclear Station Safety Evaluation Report, dated March 1979. Duke Power Company shall comply with Sections III.G Fire Protection of Safe Shutdown Capability." The license further states, "Duke shall implement a Standby Shutdown Facility System to assure shutdown capability during certain postulated fire events as indicated in Duke's letter, dated January 31, 1979. All required changes shall be completed three months after the first refueling of Unit 1, but not later than 24 months after initial fuel loading of Unit 1."

Contrary to the above, the Standby Shutdown Facility (SSF) was degraded since initial construction (January 1983). The Standby Makeup Pump of the SSF was miswired resulting in backwards motor rotation and degraded lubrication.

This is a Severity Level IV (Supplement I) violation applicable to Unit 1 only.

Reply to Violation 369/92-24-05

1. Reason for the violation:

On July 5, 1992, a routine performance test procedure PT/1/A/4209/01C, Standby Makeup Pump Flow Performance Test, was performed to verify Standby Makeup pump 1MNVP0046 would meet flow requirements. During the test, the reciprocating plunger packing on the pump was determined to be leaking. Work order 91124736 was subsequently initiated to repair the pump. On August 4, 1992, Maintenance Technician A repaired the pump as directed by the work order by adjusting the packing on the reciprocating plunger assembly. The pump was then started for functional verification and at approximately 1700 hrs., Maintenance Technician A observed the pump camshaft rotating in a direction opposite to the rotation arrow cast on the pump casing. It was determined the cause of the reverse rotation was due to the pump motor being wired incorrectly.

On August 5, 1992, an Engineering evaluation was initiated that determined Standby Makeup pump 1MNVP0046 would meet flow and pressure requirements but probably would not receive adequate lubrication when operating with the camshaft turning backwards. Therefore, it is assumed the pump would not have been able to run for the design period of 72 hours. The Standby Makeup pump 1MNVP0046 was declared inoperable and logged in the Unit 1 Technical Specification Action Item Logbook on August 5, 1992 at 1740 hrs.

McGuire Safety Review Group and Engineering personnel conducted an extensive search of work request and work order history to determine when the pump was configured to run in the reverse direction. It was determined that no significant maintenance had been performed on the pump since initial installation that would have affected the rotational direction of the pump so the pump motor was miswired at the time of installation, prior to initial unit operation (January 1983).

The root cause of this event is Management Deficiency since there were inadequate requirements for ensuring correct pump motor rotation at the time of installation. Station maintenance procedure IP/O/A/3190/02, Induction Motor Preventative Maintenance, establishes the requirements to control preventive maintenance, inspections and repair of AC induction motors 600 V and 150 horsepower or smaller. Since the Standby Makeup pump 1MNVPU0046 is less than 600 V and 150 horsepower, maintenance activity performed on the motor is controlled by procedure IP/O/A/3190/02.

On July 16, 1990, step 10.1.6 was added to IP/O/A/3190/02 (Revision 7) to include a requirement to perform a rotation verification if motor leads are disconnected during maintenance activities. This change was made in response to an Operating Experience Program (OEP) item issued concerning identified procedure deficiencies at other utilities. Therefore, since initial installation of the pump until July 16, 1990, a procedure step was not in place to ensure the pump motor was wired for correct rotation if the motor leads were disconnected during maintenance activities. From July 16, 1990 until discovery of the reverse motor rotation on August 4, 1992, IP/O/A/3190/02 contained a step to ensure the pump motor was wired for correct rotation. However, since no significant maintenance had been performed on the pump since initial installation that would have affected pump motor rotation, step 10.1.6 of IP/O/A/3190/02 was never required and the reverse motor rotation was not discovered.

On April 10, 1991, the NRC issued Information Notice 91-27 Incorrect Rotation of Positive Displacement Pump which described an event involving a positive displacement pump miswired to rotate backwards resulting in improper lubrication. Information Notice 91-27 was assigned to General Office personnel for evaluation under the Operating Experience Program. The evaluation included a review of MP/O/A/2002/01 for motors above 600 V and 150 horsepower and IP/O/A/3190/02 for motors below 600 V and 150 horsepower to verify a rotational check was required. Inspection Report 92-24, paragraph 8 addresses Duke Power Company's review of Information Notice 91-27 and states, in part, "The licensee informed the inspector that only the procedure for larger pump motors had been reviewed." This statement was based on a review of response documentation for Problem Investigation Report (PIR) 1-M92-0127 issued to address discovery of the reverse motor rotation. Further investigation indicates a thorough review was conducted in response to Information Notice 91-27 which included verification that IP/O/A/3190/02 included a step to ensure the pump motor was wired for correct rotation if the motor leads were disconnected during maintenance activities.

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

1. Work order 92059571 was initiated to change the rotation of Standby Makeup pump 1MNVPU0046. Two motor leads were reversed to provide correct pump rotation. By 1723 hrs. on August 6, 1992, all repair activities were complete and 1MNVPU0046 was returned to operable status.
2. In response to issuance of PIR 1-M92-0127, Component Engineering personnel reviewed IP/O/A/3190/02 and determined the procedure should be revised to enhance existing instructions in step 10.1.6. IP/O/A/3190/02 was revised

(Revision 8) to enhance instructions for ensuring correct motor rotation. These new instructions are located in step 10.4.

3. The Unit 2 Standby Makeup pump 2MNVPU0046 motor was verified for correct shaft rotation.
4. A Significant Corrective Action Evaluation (Criterion XVI Evaluation) was conducted to review applicability of this event to Catawba and Oconee. The evaluation determined this event was applicable to Catawba and Oconee Standby Makeup pump motors and the correct motor rotation was verified for all pumps. The evaluation also verified maintenance and installation procedures for Catawba and Oconee Standby Makeup pumps contained steps to verify correct rotation. The evaluation was completed on November 23, 1992.

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

No additional corrective actions are planned.

4. Date when full compliance will be achieved:

McGuire is now in full compliance.