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DUKE POWER

July 29, 1993

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

Subject: McGuire Nuclear Station Unit 1
Docket No. 50-369
Licensee Event Report 369/93-07
Problem Investigation Process No.: 1-M93-0625

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 369/93-07 concerning a Technical Specification required surveillance not being performed because of an Inappropriate Action. This report is being submitted in accordance with 10 CFR 50.73 (a) (2) (i). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

T.C. McMeekin

TLP/bcb

Attachment

xc: Mr. S.D. Ebnetter
Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
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Suite 1500
1100 Circle 75 Parkway
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Mr. Victor Nerses
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Mr. P.K. Van Doorn
NRC Resident Inspector
McGuire Nuclear Station

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W.M. Griffin
NSRB Support Staff (EC 12-A)

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB) 714 U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20545-0001 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME(1)

McGuire Nuclear Station, Unit 1

DOCKET NUMBER(2)

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PAGE(3)

1 OF 6

TITLE(4) A Technical Specification Required Surveillance Was Not Performed Because Of An Inappropriate Action

EVENT DATE(5) LER NUMBER(6) REPORT DATE(7) OTHER FACILITIES INVOLVED(8)

| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | DOCKET NUMBER(S) |
|-------|-----|------|------|-------------------|-----------------|-------|-----|------|----------------|------------------|
| 07 | 05 | 93 | 93 | 07 | 0 | 08 | 04 | 93 | N/A | 05000 |
| | | | | | | | | | | 05000 |

OPERATING MODE(9) 1 THIS REPORT IS SUBMITTED PURSUANT TO REQUIREMENTS OF 10CFR (Check one or more of the following)(11)

| | | | | | | |
|-------------------|---|------------------|--|----------------------|--|---|
| 20.402(b) | | 20.405(c) | | 50.73(a)(2)(iv) | | 73.71(b) |
| 20.405(a)(1)(i) | | 50.36(c)(1) | | 50.73(a)(2)(v) | | 73.71(c) |
| 20.405(a)(1)(ii) | | 50.36(c)(2) | | 50.73(a)(2)(vii) | | |
| 20.405(a)(1)(iii) | X | 50.73(a)(2)(i) | | 50.73(a)(2)(viii)(A) | | OTHER (Specify in Abstract below and in Text NRC Form 366A) |
| 20.405(a)(1)(iv) | | 50.73(a)(2)(ii) | | 50.73(a)(2)(viii)(B) | | |
| 20.405(a)(1)(v) | | 50.73(a)(2)(iii) | | 50.73(a)(2)(x) | | |

LICENSEE CONTACT FOR THIS LER(12)

NAME

Terry L. Pedersen, Manager

TELEPHONE NUMBER

AREA CODE

704

875-4487

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT(13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NFRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NFRDS |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
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SUPPLEMENTAL REPORT EXPECTED(14)

EXPECTED

MONTH

DAY

YEAR

SUBMISSION

DATE(15)

YES (If yes, complete EXPECTED SUBMISSION DATE)

X NO

ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

On July 5, 1993, the Work Control Specialist in charge of monitoring the McGuire Preventative Maintenance/Periodic Testing (PM/PT) program, discovered that the PM/PT functional verification tests for Reactor Protection (IPE) system Trains A and B, showed the same due date. Technical Specifications (TSs) require that these tests be performed on a frequency of 62 days such that both trains are tested on a staggered basis. The due dates should be 31 days apart for the PM/PTs. Upon investigation, the Specialist discovered the computer program had failed to properly update the PM/PTs after both were performed on May 22, 1993, at the end of Unit 1 EOC08. Therefore, the required test on one of the IPE trains had not been performed as required on the 31 day stagger. A work order was generated and testing was satisfactorily completed on IPE system Train A at 1200, on July 5, 1993. Unit 1 was in Mode 1 (Power Operation) at 100 percent power at the time the event occurred. This event is assigned a cause of Inappropriate Action because personnel reviewing the computer program did not properly test the part of the program used for updating the PM/PTs. All other such tests were verified to be within TS requirements and appropriate changes will be made to the computer program to ensure proper updating of future PM/PTs.

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TEXT CONTINUATION

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EVALUATION:

Background

The Engineered Safety Features Actuation (ESFA) system [EIIS:JE] is used to monitor selected plant parameters, determine whether predetermined safety limits are exceeded, and if they are, send signals into logic matrices that look for combinations that would indicate primary or secondary system boundary ruptures. Once the required logic is satisfied, the system sends actuation signals to the Engineered Safety Features (ESF) components whose function best serves the situation.

The ESFA system consists of two discrete portions of circuitry. The first is an analog portion which is made up of instrumentation monitoring various plant parameters such as Reactor Coolant (NC) system [EIIS:AB] pressure or Containment pressure. Each parameter may be monitored by either three or four redundant channels. The second is the digital portion consisting of two redundant logic trains. Each receives input from the analog protection channels and performs the needed logic functions to actuate the necessary ESF components. Each train is equally and independently capable of actuating the ESF components that may be required.

Technical Specification (TS) surveillance requirements for the automatic trip and interlock logic state that each train be tested at least every 62 days on a staggered test basis. TS definition of a staggered test basis is as follows:

- A staggered test basis shall consist of;
 - a. A test schedule for n systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into n equal subintervals, and
 - b. The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

The TS surveillance would in this case require that one train be tested each 31 days. The Preventative Maintenance/Periodic Testing (PM/PT) program allows 25 percent of the test frequency as a grace period for performance of the test. For a 31 day test this would be 7 days. Therefore, the maximum allowable time to perform the test would be 38 days.

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Description of Event

In June of 1992, the Work Management System (WMS) for generating work orders (WOs) electronically was initially placed into service at McGuire. As a part of the system the PM/PT WOs were entered and set up to be generated as they are needed. A part of the PM/PT program includes the periodic functional surveillance testing performed on the Reactor Protection (IPE) system [EIIIS:JC]. The equipment identification numbers for these surveillances are Units 1 and 2 IPE CA 9010 and 9020 for IPE system Trains A and B, respectively. TSS require that these surveillances be performed every 62 days on a staggered basis.

Prior to June of 1992, the WOs were updated manually so that the two trains were kept on a staggered schedule 31 days apart. To accomplish this using the WMS program these PM/PTs were entered to be updated as an A type calculation. This should have had the computer recognize the particular equipment number for one of the IPE trains each time it was entered as complete, update the program for that PM/PT WO for 62 days, search for the corresponding equipment number for the opposite train, and once found update the program to ensure that the PM/PT WO for that train was dated for 31 days.

The program was initially checked out by Work Control (WC) personnel and the PM/PTs using the A type calculation appeared to be working properly. No further verification of the program was performed by WC personnel. Routine reviews of the PM/PTs were performed and the PM/PTs associated with the A type calculation appeared to be updating in a proper manner.

On July 5, 1993, the WC Specialist in charge of monitoring the PM/PT program was performing a routine review of the PM/PTs due for a 7 day window 3 weeks in the future. This particular printout covered a 7 day window from July 19 to July 25, 1993. During the course of the review the Specialist noted the PM/PTs for Unit 1 IPE Trains A and B had the same due date shown. The Specialist recognized the dates should have been 31 days apart. Upon further investigation, the Specialist discovered the PM/PTs were performed together on May 22, 1993, at the end of Unit 1 EOC08.

Consequently, the PM/PT surveillance for one of the trains should have been performed no later than June 29, 1993. Realizing the error, the Specialist generated WO 93047633 to perform the required surveillance on Unit 1 IPE CA 9010 (Train A). The surveillance was begun at 1000, on July 5, 1993 and successfully completed at 1200, on July 5, 1993.

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The Specialist performed a search to determine if any other PM/PTs using the A type calculation had been missed. No others were found to have been missed. Also, work was begun to find the cause for the error in the program and repair it.

Conclusion

This event is assigned a cause of Inappropriate Action because of lack of attention to detail. When WC personnel reviewed the WMS computer program for the A type calculation, they did not properly ensure the program updated PM/PTs to accomplish the required stagger. Subsequent routine reviews of PM/PTs failed to reveal the problem with the program.

When the PM/PTs on IPE Trains A and B were performed together at the end of Unit 1 EOC08 the program updated both for 62 days in the future. The next routine check of these PM/PTs, on July 5, 1993, revealed they had the same due date. The WC Specialist performing the review recognized this was an error and checked the last date the PM/PTs were performed to determine the correct date the 31 day staggered PM/PT should be performed. He consequently discovered the PM/PT should have been performed no later than June 29, 1993. Immediate action was taken to generate a WO to perform the test on the available train. The test was completed successfully at 1200, on July 5, 1993.

Subsequently, the WC Specialist verified all other PM/PTs associated with the A type calculation to confirm that no other surveillances had been missed. Also, the WC Specialist notified the appropriate personnel at Catawba and Oconee of the discrepancy. An investigation was performed to determine the problem with the A type calculation used by the program. It was concluded as a result of the investigation that the calculation had never recognized the existence of the associated PM/PT when one of the PM/PTs was updated. It had only updated the PM/PT entered for the 62 day cycle. Since the PM/PTs involved had always been done on time, until Unit 1 EOC08 forced them to be performed together, the program had appeared to stagger the due dates properly. Appropriate changes will be implemented to the computer program to resolve the discrepancy. No other problems were found to have occurred as a result of the discrepancy.

A review of the Operating Experience Program (OEP) Data Base for twenty-four months prior to this event revealed no events attributed to a cause of Inappropriate Action resulting in a TS violation involving the IPE system. Also, no other events occurred involving the WMS program or inadequate testing of the WMS program. Therefore, this event is not

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considered recurring.

This event is not Nuclear Plant Reliability Data system (NPRDS) reportable.

There were no personnel injuries, radiation overexposures, or uncontrolled releases of radioactive material as a result of this event.

CORRECTIVE ACTIONS:

- Immediate:**
- 1) WC personnel generated WO 93047633 to perform the required surveillance on Unit 1 IPE CA 9010 (Train A).
 - 2) Instrumentation And Electrical personnel successfully performed the PM/PT on Unit 1 IPE CA 9010.
 - 3) WC personnel performed a search to determine if any other PM/PTs using the A type calculation had been missed.
 - 4) WC personnel notified appropriate personnel at Catawba and Oconee of the discrepancy.
- Subsequent:**
- 1) WC personnel performed an investigation to determine the cause for the error in the WMS A type calculation for PM/PTs.
 - 2) WC personnel manually checked the stagger on all A type calculations and verified proper scheduling of the associated PM/PTs.
- Planned:**
- 1) WC personnel will make appropriate changes to the WMS computer program and verify that the A type calculation program will properly update PM/PTs on a staggered basis.

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SAFETY ANALYSIS:

The event described in this LER is technical in nature in that it deals with the failure to perform a portion of a surveillance requirement. The TS surveillance requirements for the automatic trip and interlock logic state that each train be tested at least every 62 days on a staggered test basis. The portion of the surveillance not performed was the testing of one train at the beginning of the subinterval (31 days). Since the testing performed upon discovery of the problem found no inoperable equipment or circuitry, and since the equipment history of this equipment and circuitry shows no failures in past tests, this equipment is not considered to have been past inoperable. There is no evidence to suggest that the equipment would not have actuated as required during an accident.

To render the entire ESFA system inoperable, multiple failures of components would have had to occur. During the time when the portion of the surveillance was missed until the portion of the surveillance was performed, there were no conditions or combinations of conditions that would have required the ESFA system to actuate. There were also no conditions or combinations of conditions which would have been aided by the use of the ESFA system. Therefore, the health and safety of the public were not affected as a result of this event.