

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station, Unit 1 DOCKET NUMBER (2) 0 5 0 0 0 3 6 9 PAGE (3) 1 OF 0 5

TITLE (4) Charging Pump Recirc Valves For Unit 1 And Unit 2 Were Not Being Tested As Specified By Inservice Test Requirements

EVENT DATE (6)			LER NUMBER (8)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
03	09	89	89	005	000	04	19	89	McGuire, Unit 2		0 5 0 0 0 3 7 0
									N/A		0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more of the following) (11)

OPERATING MODE (9) <u>5</u>	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(a)	<input type="checkbox"/> 80.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (13) <u>01010</u>	<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 80.38(a)(1)	<input type="checkbox"/> 80.72(a)(2)(v)	<input type="checkbox"/> 73.71(a)
	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 80.38(a)(2)	<input type="checkbox"/> 80.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 80.73(a)(2)(i)	<input type="checkbox"/> 80.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 80.73(a)(2)(ii)	<input type="checkbox"/> 80.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 80.73(a)(2)(iii)	<input type="checkbox"/> 80.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Alan Sipe, Chairman, McGuire Safety Review Group TELEPHONE NUMBER 7104 817151-1411813

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On March 9, 1989, Performance personnel were reviewing the Chemical and Volume Control (NV) System Valve Stroke Timing - Shutdown procedure. They discovered that the submittal to the NRC that specifies the inservice test frequency for valves NV-150B and NV-151A, Centrifugal Charging Pumps Recirculation, on both Units 1 and 2 had specified a valve stroke timing test be done every 3 months. However, this test was being performed during Cold Shutdown as specified by the NV system Valve Stroke Timing - Shutdown procedure. Valves NV-150B and NV-151A can be tested only when the unit is shutdown and the Centrifugal Charging pumps are not operating. Therefore, Performance personnel will submit to NRC personnel a change to the Inservice Test submittal specifying that these valves will be tested during Cold Shutdown. This event is assigned a cause of Inappropriate Action because Performance Staff Engineer A failed to specify in the Inservice Test submittal to NRC personnel that valves NV-150B and NV-151A can be tested only during Cold Shutdown. Unit 1 was in Mode 5, Cold Shutdown, and Unit 2 was in Mode 1, Power Operation, at 100% power, at the time this event was discovered.

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TEXT (if more space is required, use additional NRC Form 366A's) (17)

EVALUATION:

Background

The NV system [EIIS:CB] is designed to maintain required water inventory in the Reactor Coolant (NC) system [EIIS:AB], maintain seal water injection flow to the NC pumps [EIIS:P], control NC system water chemistry, and provide high pressure injection as part of the Emergency Core Cooling System. There are two Centrifugal Charging pumps (CCPs) in parallel that are used as the discharge of the NV system to the NC system and are used as the high pressure injection pumps. These CCPs have a common discharge header with a recirculation line going to the Volume Control Tank (VCT) [EIIS:TK]. The VCT is on the suction side of the CCPs and serves as a storage and surge tank for the NV system. Valves [EIIS:V] NV-150B and NV-151A are two inch electrically operated globe valves that are in series on the recirculation line from the discharge of the CCPs to the VCT. These valves do not receive any automatic signal to open or close but, are operated by pushbutton from the Main Control Board [EIIS:MCBD].

Technical Specification 4.0.5 requires that inservice inspection and testing of American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code. The ASME Boiler and Pressure Vessel Code, Section XI, Article IWV-3000, requires that a valve be exercised (stroke time tested) at least every 3 months or a valve that cannot be exercised during plant operation shall be specifically identified by the owner and shall be exercised during Cold Shutdown.

All valves that require testing as specified by Article IWV-3000 were identified and the testing requirements specified on the original and subsequent submittals to NRC personnel. The original submittal of these inservice testing requirements for Unit 1 was submitted on November 14, 1978 and for Unit 2 was submitted on March 31, 1983. Since these dates, subsequent submittals to the NRC have identified changes to the original submittal as a result of typographical errors, system modifications, testing modifications, etc.

Description of Event

On May 6, 1988, Performance personnel submitted to NRC personnel a revision to the Inservice Testing program submittal. This was Revision 10 for Unit 1 and Revision 6 for Unit 2. The revision included many changes to the Inservice Valve Testing program including the addition of valves NV-150B and NV-151A for Unit 1 and Unit 2. These valves had recently been identified by Performance personnel as valves that required a periodic valve stroke timing test. Performance Staff Engineer A did not specify in the submittal that there were any special conditions for testing these valves; therefore, the test frequency was submitted as every 3 months. Performance personnel previously had changed procedures PT/1 and 2/A/4209/03P, NV Valve Stroke Timing - Shutdown, on September 29, 1987 to include testing valves NV-150B and NV-151A during Cold Shutdown because these valves could not be tested during plant operation when either CCP was operating.

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On March 9, 1989, Performance personnel were reviewing the NV Valve Stroke Timing - Shutdown procedure as part of an ongoing effort to improve the valve stroke timing procedures for all plant systems. As part of this review, a comparison was made between the testing requirements of the procedure under review and the information submitted to NRC personnel in the Inservice Valve Testing submittal. Performance personnel determined that valves NV-150B and NV-151A were specified by procedure to be stroke time tested during Cold Shutdown and that the Inservice Valve Testing submittal specified that testing would be done every 3 months.

On April 4, 1989, Performance personnel submitted a revision to the Inservice Valve Testing submittal that includes a justification for Cold Shutdown testing only of valves NV-150B and NV-151A.

Conclusion

This event is assigned a cause of Inappropriate Action because Performance Staff Engineer A failed to specify in the revision to the Inservice Test submittal on May 6, 1988, that valves NV-150B and NV-151A could only be tested during Cold Shutdown. This error was apparently made because of an inattention to detail when Performance Staff Engineer A drafted this revision to the Inservice Test submittal. The previous change to the NV Valve stroke Timing - Shutdown procedure that reflected the addition of valves NV-150B and NV-151A specified testing during Cold Shutdown. Valves NV-150B and NV-151A provide a recirculation flow path for the CCPs. This recirculation flow path cannot be isolated while the pumps are operating without risking damage to the pumps. At least one CCP is operating whenever the associated unit is operating above Mode 4, Hot Shutdown. Performance Staff Engineer A was aware of this situation and made the appropriate change to the NV Valve Stroke Timing - Shutdown procedure but failed to specify in the Inservice Test submittal that testing of valves NV-150B and NV-151A could only be performed during Cold Shutdown and include the justification for this testing frequency in the submittal.

Duke Power personnel have submitted to the NRC a revision to the Inservice Valve Test submittal that includes a change to the test frequency for valves NV-150B and NV-151A for Unit 1 and Unit 2 from every 3 months to every Cold Shutdown and a justification for this test frequency.

Performance personnel have a checklist that is used during procedure review. This checklist includes items of importance to check while preparing or reviewing procedures. One of these items is a comparison between the Inservice Test submittal specified testing requirements and the procedural testing requirements. This checklist was implemented in 1984. There was no requirement for Performance personnel to use the checklist but it had been used in the past during the routine biennial procedure review process. However, the Performance personnel that discovered the discrepancy with valves NV-150B and NV-151A were using the procedure review checklist even though the review that was being conducted was not the routine biennial procedure review and this contributed to the discovery of this event. All valve stroke timing test procedures are now undergoing review and revision and this is the only reportable discrepancy discovered to this point. All but 6 of the 74 procedures have been reviewed at this time. Therefore, Performance

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personnel believe that the discrepancy with valves NV-150B and NV-151A is an isolated event.

A search of McGuire LERs of the previous 12 months revealed one other LER concerning a missed Technical Specification required surveillance caused by a lack of attention to detail. Therefore, this event is considered recurring. LER 369/88-047 was written about an event where a relief from hydrostatic testing requirements was not requested from NRC personnel. As a result of this previous event, a review was completed of procedures and methods that are used by station personnel that may have a need to require relief or alternate testing than that specified by the ASME Boiler and Pressure Vessel Code. Performance personnel do not routinely request relief or alternate testing or valve stroke time testing but rather specify the conditions for this testing by Inservice Test submittals. These submittals are made periodically whenever changes to the Inservice Test program are necessary. There are no formal station procedures or guidelines for preparation and review of these submittals.

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

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

CORRECTIVE ACTIONS:

Immediate: None

- Subsequent:
- 1) Performance personnel submitted a revision to the Inservice Test submittal that includes a justification for Cold Shutdown testing of valves NV-150B and NV-151A for Unit 1 and Unit 2.
  - 2) Performance personnel have instituted the required use of a procedure review checklist for all biennial procedure reviews.

Planned: Performance Qualified Reviewer personnel will review this incident to emphasize the need to ensure that procedures and Inservice Test submittals contain consistent and accurate information.

SAFETY ANALYSIS:

Valves NV-150B and NV-151A had been successfully stroke time tested during Cold Shutdown as directed by the NV Valve Stroke Timing - Shutdown procedure to prove that they were functioning properly. These valves are normally open to allow recirculation flow for the CCPs during normal operation to prevent damage to the pumps. During an event that requires high pressure injection to the NC system, the CCPs are aligned to provide this injection flow. Valves NV-150B and NV-151A remain open until NC system pressure drops below 1500 psig, at which time Operations personnel are directed by procedure EP/1 and 2/A/5000/01, Safety Injection, to close these valves. This ensures maximum high pressure injection flow to the NC system when NC pressure is low and flow is assured so that the CCPs will not be damaged. The valve stroke timing test ensures that these valves will be able to

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close when needed. If either valve had failed to close when Operations personnel had tried to close them, the other valve should have been able to stop recirculation flow. If both valves had failed to close, Operations personnel would have noticed immediately and dispatched personnel to locally close one or both of these valves. The volume of water lost through the recirculation line from the time NC system pressure reached 1500 psig and the valves were manually closed would have a small effect on the total injection flow. The previous stroke time testing during Cold Shutdown has shown that valves NV-150B and NV-151A were capable of moving when necessary. There have been no previous events of either of these valves failing to operate when required.

This event is considered to be of no significance with respect to the health and safety of the public.

Duke Power Company  
McGuire Nuclear Station  
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**DUKE POWER**

April 19, 1989

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

Subject: McGuire Nuclear Station Units 1 and 2  
Docket No. 50-369/370  
Licensee Event Report 369/89-05

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 369/89-05 concerning a discrepancy in the testing schedule for the Charging Pump recirculation valves. This report is being submitted in accordance with 10CFR 50.73 (a)(2)(i)(B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

*Hal B. Tucker*  
for  
Hal B. Tucker

ARS/bcb

Attachment

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NRC Resident Inspector  
McGuire Nuclear Station

*JEH*  
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