

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station, Unit 1 DOCKET NUMBER (2) 050003619 PAGE (3) 1 OF 018

TITLE (4) A surveillance Requirement was Not Performed Prior to Entering Mode 4 - Inadequate Policy

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)	
09	04	88	88	027	00	10	17	88	N/A	050003619	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)

OPERATING MODE (9) <u>1</u>	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10) <u>100</u>	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.38(a)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.38(a)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract): below and in Text, NRC Form 360A
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.406(a)(1)(vi)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
<u>Steven E. LeRoy, Licensing</u>	<u>710 W 31713-161313</u>

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

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)

According to Technical Specifications, valves INV-458A, 75 GPM Letdown Orifice Outlet - Containment Isolation, and INV-459A, High Pressure Letdown Orifice Outlet - Containment Isolation are required to be stroke time tested prior to the time the unit enters Mode 4 (Hot Shutdown). However, Unit 1 entered Mode 4 on 11/08/87, five days prior to the time that valves INV-458A and INV-459A were stroke time tested. This event is assigned a cause of Management Deficiency because of an inadequate policy to ensure that work requests are transferred to the appropriate personnel so that valve stroke timing retests are performed by the required time. A contributory cause of Other is also assigned because of a possible Personnel Error or a possible Management Deficiency resulting in the work request for valve INV-458A being filed incorrectly. The valve stroke timing tests were successfully completed on 11/13/87. Corrective actions are planned to enhance scheduling to prevent missed valve retests.

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TEXT OF THIS REPORT IS AVAILABLE FOR ADDITIONAL NRC Form 266A (17)

INTRODUCTION:

On September 4, 1987, Operations personnel initiated a work request to inspect valve 1NV-459A, High Pressure Letdown Orifice Outlet - Containment Isolation, for erosion and seat damage because test results indicated that the valve was leaking. Because there was a possibility that either of the two remaining letdown isolation valves (in parallel with valve 1NV-459A) were leaking instead, Performance (PRF) personnel initiated work requests for inspection of valve 1NV-457A, 45 gpm Letdown Orifice Outlet - Containment Isolation, and valve 1NV-458A, 75 gpm Letdown Orifice Outlet - Containment Isolation. These two work requests were initiated only to plan the inspection of valves 1NV-457A and 1NV-458A during the 1987 Unit 1 Refueling Outage; the necessity of repairing the valves would be evaluated pending the results of the inspection of valve 1NV-459A.

On September 14, 1987, Vendor personnel began work on valve 1NV-459A and determined conclusively that this valve was leaking. Vendor personnel and Instrumentation and Electrical IAE personnel repaired valve 1NV-459A, and Vendor personnel performed a functional verification to verify that the valve was not leaking on November 12, 1987. PRF personnel performed a valve stroke timing retest for valve 1NV-459A on November 13, 1987.

After Vendor personnel determined that valve 1NV-459A was leaking, PRF personnel requested on October 6, 1987 that the work requests written for inspection of valves 1NV-457A and 1NV-458A be voided because there was no reason to suspect that any additional letdown isolation valves were leaking. However, IAE personnel had previously begun to work on valve 1NV-458A by disconnecting the air supply and limit switches on October 2, 1987. As a result of the request by PRF to void the work requests, IAE personnel reconnected the air supply and limit switches on valve 1NV-458A and completed a functional verification to verify correct Control Room indication on November 5, 1987. PRF personnel performed a valve stroke timing test on valve 1NV-458A on November 13, 1987.

According to Technical Specifications, valves 1NV-458A and 1NV-459A were required to be stroke time tested prior to the time that Unit 1 entered Mode 4 (Hot Shutdown). However, Unit 1 entered Mode 4 on November 8, 1987, five days prior to the time that valves 1NV-458A and 1NV-459A were stroke time tested.

Unit 1 was in Mode 1 (Power Operation) at 100% power when the Technical Specification violation was discovered.

This event has been assigned a cause of Management Deficiency because of an inadequate policy to ensure that work requests are transferred to the appropriate personnel so that valve stroke timing retests are performed by the required time.

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TEXT (if more space is required, use additional NRC Form 288A (1))

A contributory cause of Other has also been assigned to this event because of a possible Personnel Error or, possible Management Deficiency resulting in the work request for valve INV-458A being filed incorrectly.

EVALUATION:

Background

The Chemical and Volume Control (NV) system [EIIS:CB] has the following functions: 1) To maintain the required inventory in the Reactor Coolant system, [EIIS:AB]; 2) To maintain seal water injection flow to the Reactor Coolant pumps; 3) To control the Reactor Coolant chemistry; and, 4) To fill and drain the Reactor Coolant system.

Two parallel letdown orifices [EIIS:OR] are provided to reduce the pressure in the letdown piping and control the flow of reactor coolant from the Reactor Coolant system. One orifice is designed for normal operating flow (75 gpm) with the other serving as a standby. The standby orifice is designed to pass 45 gpm, and is used as an alternate letdown flow path. The 45 gpm and 75 gpm orifices are placed in or out of service by remote operation of the respective letdown orifice outlet isolation valves, INV-457A and INV-458A. A third parallel letdown path is available (without an orifice) in which valve INV-459A serves as a throttle and isolation valve.

Valves INV-457A, INV-458A, and INV-459A are Fisher air-operated globe valves and close on a Phase A Containment Isolation signal. These valves also automatically close on a Low Pressurizer Level signal or by closing valves INV-1A or INV-2A, Letdown Isolation To Regenerative Heat Exchanger [EIIS:HX].

Technical Specification (TS) Surveillance Requirement 4.6.3.1 requires that each containment isolation valve be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a valve stroke timing test. This TS is applicable to all modes above Mode 5 (Cold Shutdown).

Description of Event

On September 4, 1987, Operations (OPS) personnel performed test procedure TO/1/A/9600/51, Letdown Orifice Isolation Valve Test, which indicated that valve INV-459A was leaking. Consequently, OPS personnel initiated Work Request (WR) 131670 on the same day to inspect valve INV-459A for erosion and seat damage. PRF personnel also tested the letdown orifice isolation valves for leakage; the results also indicated that valve INV-459A was leaking. Because there was a possibility that either of valves INV-457A and INV-458A were

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leaking instead, PRF personnel initiated Work Requests 87796 and 87795 to plan the inspection of these valves during the 1987 Unit 1 Refueling Outage. The necessity of repairing these valves would be evaluated pending the results of the inspection of valve INV-42A.

On September 14, 1987, Vendor personnel (i.e., Nuclear Support Services and Atlantic Power Services personnel) began work on valve INV-459A and determined that the seat ring and plug had eroded which was causing the leakage. Vendor personnel repaired the valve and IAE personnel reconnected the air supply and set the limit switches on October 13, 1987. IAE personnel then returned the WR for valve INV-459A to Planning (PLN) personnel because the WR called for a functional verification by Mechanical Maintenance (MNT) personnel to ensure that the valve was not leaking externally. PLN personnel forwarded the WR to MNT personnel on October 31, 1987 and again on November 4, 1988 for the functional verification, but it was returned each time because MNT personnel could not perform the functional verification because of operational conditions. Vendor personnel (who were working with MNT personnel) eventually performed the functional verification on November 12, 1987, and PRF personnel performed the valve stroke timing retest on November 13, 1987, five days after Unit 1 entered Mode 4. This error was discovered while investigating the failure to retest valve INV-458A by the required time.

Because Vendor personnel determined conclusively that valve INV-459A was leaking, PRF personnel requested on October 6, 1987 that WRs 87796 and 87795, written for inspection of valves INV-457A and INV-458A respectively, be voided. This decision was based on a lack of leakage problems with valves INV-457A and INV-458A and a history of leakage problem with valve INV-459A, which is subject to erosion problems because of the relatively high pressure drop across the valve (approximately 1700 psi). However, in preparation of possibly having to repair valve INV-458A, IAE personnel had previously begun to work on the valve on October 2, 1987 (as instructed) by removing the air supply and the limit switches. As a result of the request by PRF personnel to void the WR for valve INV-458A, IAE personnel reconnected the air supply and limit switches and performed a functional verification on November 5, 1987 to verify correct Control Room indication. On the same day, IAE personnel returned the WR for valve INV-458A to PLN personnel because the WR indicated that a functional verification by MNT personnel was required. According to the historical status information for this WR, PLN personnel then placed the WR on hold for the next Unit 1 Refueling Outage. The WR remained in Planning until August 8, 1988 when it was forwarded to PRF personnel. PLN personnel forwarded the WR to PRF personnel at this time because retest documentation was required before the WR could be closed out.

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Although PRF personnel did not receive a WR, requesting that a stroke timing retest be performed on valve INV-458A (at the time the valve was worked on), the valve was nevertheless retested. PRF personnel performed a valve stroke timing retest on valve INV-458A on November 13, 1987 as a result of testing valve INV-459A because the test is a routine quarterly surveillance and it was convenient to test all letdown orifice isolation valves at the same time. PRF personnel were not aware at the time of the surveillance that an outstanding WR on valve INV-458A existed. While documenting the retest on the WR on August 8, 1988, PRF personnel realized that valve INV-458A had not been stroke time tested prior to the time that Unit 1 entered Mode 4 and initiated a Problem Investigation Report.

Conclusion

This event has been assigned a cause of Management Deficiency because of an inadequate policy to ensure that WRs are transferred to the appropriate personnel for retesting by the required time. According to the historical status information for the WR for valve INV-459A, IAE personnel forwarded the WR to PLN personnel when their work on valve INV-459A, which included a functional verification to ensure correct Control Room indication, was completed on October 13, 1987. IAE personnel normally would have forwarded the WR directly to PRF personnel for the retest if a functional verification by IAE personnel was indicated on the WR. In this case, however, a functional verification by MNT personnel to check for external leakage was indicated on the WR. Therefore, IAE personnel returned the WR to PLN personnel to have the MNT functional verification scheduled. PLN personnel then forwarded the WR to MNT personnel, but MNT and/or Vendor personnel were unable to perform the MNT functional verification prior to Mode 4 because the test must be performed while the Reactor Coolant system is at normal operating pressure. Consequently, the functional verification of valve INV-459A was delayed until November 12, 1987, when the Reactor Coolant system pressure was high enough to perform the leakage test. The policy for routing the WR was inadequate because it was unclear how the WR should have been routed and who was responsible for submitting it to PRF personnel for the retest. Maintenance Management Procedure 1.0 states that the Craft Supervisor shall contact the retest group to perform the retest and to document the surveillance retest. In this case, however, it was not clear who was responsible for forwarding the WR to PRF personnel because IAE and MNT Supervisors were involved. Some personnel interviewed felt that the IAE Supervisor should have forwarded the WR directly to PRF personnel; however, other personnel interviewed felt that the MNT Supervisor was the responsible Craft Supervisor (because MNT personnel did most of the work on the valve) and that the decision by the IAE Supervisor to return the WR to PLN personnel to schedule the MNT functional verification was acceptable. Also, because a WR routing process was not clearly defined, the WR was routed to MNT personnel (twice, prior to Mode 4) to perform the leakage test even though the test could not be performed because of system conditions.

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TEXT of this report is required, with additional NRC Form 388A (2-17)

Similar conditions occurred during the handling of the WR for valve INV-458A. A MNT functional verification was indicated on this WR also, and IAE personnel returned the WR to PLN personnel when their work on valve INV-458A was completed. The WR then should have been forwarded to MNT personnel to document that no MNT work was performed and therefore, no MNT functional verification was required. Alternatively, PLN personnel could have changed the group assigned for the functional verification to IAE and credit could have been taken for the IAE functional verification previously performed. In either case, the WR should have been forwarded to PPF personnel for a retest of valve INV-458A. However, the WR was placed with those that are kept on hold for the next Unit 1 Refueling Outage. As a result, valve INV-458A was not retested by the required time. Because this event occurred approximately one year prior to the date of this report, there is insufficient information available to determine specifically why the WR for valve INV-458A was put on hold. The error may have been caused by a lack of attention to detail on the part of the Planner who handled the WR. Another possibility is that the Planner was instructed by his Supervision to place the WR on hold. Alternatively, the WR may have been put on hold because of a request by IAE or MNT personnel. Therefore, this event has also been assigned a contributory cause of Other because of a possible Personnel Error or possible Management Deficiency which resulted in the WR for valve INV-458A being placed on hold.

A review of the McGuire Licensee Event Reports (LER) revealed five past events involving TS violations and attributed to a Management Deficiency because of an inadequate policy. These events were reported by LERs 369/85-14, 369/85-23, 370/87-01, 370/87-13, and M8369/88-21. Numerous additional incidents involving TS violations were revealed which were attributed to possible Personnel Errors. Therefore, this event is considered to be recurring. None of the previous events involved missed valve stroke timing retests, and the planned corrective actions were specific to the events and would not have prevented this event from recurring.

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

CORRECTIVE ACTIONS:

Immediate: None

Subsequent: PPF personnel performed the valve stroke timing retest for valves INV-458A and INV-459A on November 13, 1987 and verified acceptable isolation times.

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Planned:

- 1) This event will be reviewed with appropriate PLN, MNT, and TAE personnel.
- 2) Additional guidelines for routing WRs are being developed to help ensure that WRs are forwarded to the appropriate personnel so that retests will be completed by the required time.
- 3) In September 1987, an Operability Task Force was formed to resolve problems in assuring component, system, and unit operability following an outage. This task force includes McGuire personnel from many station disciplines who have met periodically since October 1987. As a result of this Task Force, two changes will be made to the outage schedule beginning with the 1989 Unit 2 Refueling Outage which will help to ensure that retests are performed by the required mode. The first change is the addition of retest activities to the outage schedule. The second change is the addition of code fields for activities in the outage schedule to reflect plant operating conditions and mode requirements. Addition of the code fields to the outage schedule will enable the user to list all work activities which must be completed by a given mode during an outage. These lists, which will include retest activities, will assist Integrated Scheduling personnel, PLN personnel, and individuals responsible for work activities in transferring WRs to the appropriate personnel to ensure that all retests are completed by the required mode. Though the outage schedule is not a controlled document or official procedure, these enhancements will help prevent similar problems with retests being overlooked.

SAFETY ANALYSIS:

Demonstration of the operability of valves INV-458A and INV-459A was completed as a result of the successful completion of the valve stroke timing retests performed by PRF personnel on November 13, 1987. These valves were therefore capable of fulfilling their safety function by isolating the Reactor Coolant system letdown should a Containment Isolation signal occur. No incidents occurred during the period from November 8, 1987 until November 13, 1987 which would have required containment isolation.

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If these valves had not been capable of isolating letdown, either of the upstream Letdown Isolation to Regenerative Heat Exchanger valves (LW-1A and LV-2A) were available to provide letdown isolation.

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

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



DUKE POWER

October 17, 1988

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 369/88-27

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 369/88-27 concerning two required surveillances that were missed. 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

SEL/352/sel/rmf

Attachment

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