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

Subject: McGuire Nuclear Station, Unit 1
Docket Nos. 50-369
Licensee Event Report 369/01-01, Revision 0
Problem Investigation Process No.: M-01-2854

Pursuant to 10 CFR 50.73, Sections (a)(1) and (d), attached is Licensee Event Report (LER) 369/01-01, Revision 0. This report regards station discovery that the Unit 1 Emergency Personnel Hatch was not fully secured in the closed position.

On October 15, 2001, it was determined that the discovered condition could represent an event or condition prohibited by Technical Specification 3.6.14, Divider Barrier Integrity, which requires the hatch to be in the closed position. Accordingly, this report is submitted in accordance with 10 CFR 50.73 (a)(2)(i)(B) as an event or condition prohibited by the plant's Technical Specifications. This event is considered to be of no significance to the health and safety of the public. This LER does not contain any regulatory commitments.

/ H B Barron

H. B. Barron

Attachment

IE22

cc: Mr. L. A. Reyes
U.S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30323

Mr. R. E. Martin
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339

Mr. S. M. Shaeffer
NRC Resident Inspector
McGuire Nuclear Station

NRC FORM 366 (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
McGuire Nuclear Station, Unit 1	05000 369	1 OF 4

TITLE (4)

Emergency Personnel Hatch (EPH) not fully secured in the closed position

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	21	01	01	– 01 –	0	12	5	01	FACILITY NAME	DOCKET NUMBER

		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)			
OPERATING MODE (9)	1	20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
		20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
POWER LEVEL (10)	100	20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
		20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
		20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
		20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
		20.2203(a)(2)(v) X	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
		20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
		20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
C. J. Thomas, Regulatory Compliance Manager	(704) 875-4535

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

Unit Status: On 6/21/01, Unit 1 and Unit 2 were in Mode 1 (Power Operation) at 100 percent power.

Event Description: On June 21, 2001, the tamper seals were discovered missing and the handwheel misaligned on the Unit 1 Emergency Personnel Hatch (EPH) between upper and lower containment. At 1330 hours, Technical Specification 3.6.14 was entered which requires the unit to be in Mode 3 within seven (7) hours in the event the hatch is not restored to closed status. The hatch was fully closed/sealed at 1415 hours. The surveillance requirements per Technical Specification 3.6.14.2 and 3.6.14.3 were successfully completed at 1630 hours.

Event Cause: The root cause for the EPH seal integrity compromise could not be conclusively determined. The most likely cause for the compromise is traffic in the vicinity of the EPH during performance of an Extra High Radiation Lamp (EHRL) inspection/replacement procedure. No evidence exists to indicate that the EPH was opened for personnel transit entry between the date of discovery and the last required surveillance.

Corrective Action: Radiation Protection procedure HP/0/B/1006/009 will be evaluated for potential enhancements.

BACKGROUND:

The Emergency Personnel Hatch (EPH), also known as the Submarine Hatch, is used as an emergency egress for personnel between the lower and upper containment compartments.

The EPH also functions as part of the Divider Barrier between lower and upper containment. The divider barrier consists of the operating deck and associated seals, personnel access doors, and equipment hatches. Divider barrier integrity is necessary to minimize bypassing of the ice condenser by the hot steam and air mixture released into the lower compartment during a Design Basis Accident (DBA). This ensures that most of the gases pass through the ice bed, which condenses the steam and limits pressure and temperature during the accident transient. Limiting the pressure and temperature reduces the release of fission product radioactivity from containment to the environment in the event of a DBA.

Divider barrier integrity ensures that the high-energy fluids released during a DBA would be directed through the ice condenser and that the ice condenser would function as designed to limit containment pressure and temperature. The limiting DBAs considered relative to Containment temperature and pressure are the loss of coolant accident (LOCA) and the steam line break (SLB).

Event Description:

On June 21, 2001, the Unit 1 EPH (containment upper/lower divider barrier) door was found not fully sealed. Maintenance personnel discovered that two (2) required tamper seals were missing from the submarine hatch door handle and the door did not appear to be fully closed as evidenced by handwheel closure alignment marks.

The Operations Shift Manager (OSM) was informed of the problem. The Unit 1 EPH and the Containment Divider Barrier were declared inoperable at 1330 hours per Technical Specification 3.6.14, "Divider Barrier Integrity."

The Work Control Center (WCC) Senior Reactor Operator (SRO) was dispatched into Unit 1 containment. The hatch was fully closed/sealed at 1415 hours as evidenced by obtaining proper alignment of the handwheel with the closed alignment marks. By 1630 hours, Maintenance procedure MP/0/A/7150/106, "Emergency Personnel (Submarine) Hatch Status Determination, Gasket Inspection and Maintenance, was successfully completed. This procedure implements Technical

Specification surveillance requirements 3.6.14.2 and 3.6.14.3 which require verification, by visual inspection, that EPH seals and sealing surfaces are appropriately aligned, free of cracks or defects, seal material deterioration does not exist, and that the EPH is fully closed.

Appropriate NRC and Management notifications were completed in accordance with Work Process Manual 404 requirements.

CAUSE:

The root cause for the EPH seal integrity compromise could not be conclusively determined. The most likely cause is traffic in the vicinity of the closed hatch during performance of an Extra High Radiation Lamp (EHRL) inspection/replacement procedure. The inspections were performed between April 19, 2001 and May 9, 2001. The procedure is performed in upper containment and does not require a transit entry through the EPH. No evidence existed which would indicate an entry occurred. The procedure (HP/0/B/1006/009) lacked instructions to verify the EPH had not been disturbed after EHRL inspection/replacement.

CORRECTIVE ACTIONS

Immediate:

The Operations Shift Manager (OSM) was informed of the problem. The Unit 1 EPH and the Containment Divider Barrier were declared inoperable at 1330 hours per Technical Specification 3.6.14, "Divider Barrier Integrity."

The Work Control Center (WCC) Senior Reactor Operator (SRO) was dispatched into Unit 1 containment. The hatch was successfully closed/sealed at 1415 hours as evidenced by obtaining proper alignment of the handwheel with the closed alignment marks.

Maintenance performed surveillances per Technical Specification 3.6.14 on the divider barrier per MP/0/A/7150/106, "Emergency Personnel (Submarine) Hatch Status Determination, Gasket Inspection and Maintenance." The required surveillance were successfully completed per Technical Specification requirements at 1630 hours.

Appropriate NRC and management notifications were completed in accordance with Work Process Manual 404 requirements.

The Unit 2 EPH seal was verified in the closed position.

Subsequent:

An analysis was performed to verify containment operability. The additional divider barrier bypass leakage associated with the as found condition of the subject hatch would not have resulted in unacceptable post LOCA containment peak pressures.

None

Planned:

Radiation Protection procedure HP/0/B/1006/009 will be evaluated for potential enhancements.

SAFETY ANALYSIS

The primary safety concern with having the hatch open during plant operations is the additional open area presented for steam bypass flow. Should a high-energy line break (HELB) or loss of coolant accident (LOCA) occur, some volume of steam which would normally pass through the Ice Condenser would proceed through the hatch area and increase pressure in upper containment. Although analyzed peak upper containment pressure would increase inside containment, calculations demonstrated that containment remained operable with the latch not fully secured.

If the Unit 1 EPH were fully open, calculations also demonstrate that the increase in peak containment pressure would remain well below the design pressure and the divider barrier could have performed its intended safety function. Divider Barrier bypass leakage has no effect on other design basis accidents.

There were no releases of radioactive materials, radiation exposures or personnel injuries. There was no impact on the health and safety of the public or plant personnel due to this event.