

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 3 7 0	PAGE (3) 1 OF 0 4
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TITLE (4) DISCRETIONARY FAILURE TO SECURE CONTAINMENT PURGE AFTER FLOW WAS LOST TO THE CONTAINMENT RADIATION MONITOR

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)
0 5	2 8	8 7	8 7	0 0 6	0 0 6	2 9	8 7				0 5 0 0 0
THIS REPORT IS SUBMITTED PURBUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											

OPERATING MODE (9) NO	POWER LEVEL (10) 0 0 1 0	20.402(b)	20.406(a)(1)(i)	20.406(a)(1)(ii)	20.406(a)(1)(iii)	20.406(a)(1)(iv)	20.406(a)(1)(v)	20.406(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
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LICENSEE CONTACT FOR THIS LER (12)										TELEPHONE NUMBER				
NAME STEVEN E. LEROY LICENSING										AREA CODE 7 0 4 3 7 3 - 6 2 3 3				

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUF. TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUF. TURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO		

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

On May 28, 1987, at 1055, a loss of flow alarm was received in the Control Room for the Unit 2 Containment Radiation Monitor. An attempt was made to secure the Containment Purge system by first closing the Containment equipment hatch. The equipment hatch could not be closed immediately due to a problem with the equipment hatch gasket and the Containment Purge system was left in operation. At approximately 1230 while conducting a routine check of the Radiation Monitoring Cabinets in the Control Room, Health Physics noticed the low flow alarm on the Containment Radiation Monitor with the Containment Purge System still in operation. Health Physics requested Operations secure the Containment Purge system to comply with Technical Specification 3.3.3.9. The Containment Purge system was secured at 1230.

Unit 2 was in No Mode with fuel removed from the Reactor during this incident.

The Containment Purge system was not immediately secured when flow was lost to the Containment Radiation Monitor as required by Technical Specifications due to the concern that the possible release of unmonitored and unfiltered Containment atmosphere to the environment through the equipment hatch might occur. The VP system was secured at 1230 and the equipment hatch was closed at approximately 1600.

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

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

INTRODUCTION:

On May 28, 1987, at 1055, a loss of flow alarm was received in the Control Room for the Unit 2 Containment Radiation Monitor [EIIS:MON]. An attempt was made to secure the Containment Purge system by first closing the Containment equipment hatch. The equipment hatch could not be closed immediately due to a problem with the equipment hatch gasket and the Containment Purge system was left in operation. At approximately 1230 while conducting a routine check of the Radiation Monitoring Cabinets [EIIS:CAB] in the Control Room, Health Physics noticed the low flow alarm on the Containment Radiation Monitor with the Containment Purge System still in operation. Health Physics requested Operations secure the Containment Purge system to comply with Technical Specification 3.3.3.9. The Containment Purge system was secured at 1230.

Unit 2 was in No Mode with fuel removed from the Reactor during this incident.

The Containment Purge system was not immediately secured when flow was lost to the Containment Radiation Monitor as required by Technical Specifications due to the concern that the possible release of unmonitored and unfiltered Containment Building atmosphere to the environment through the equipment hatch might occur.

EVALUATION:

Background

The primary purpose of the Containment Purge (VP) system is to provide the capability for purging and filtering the Containment Building atmosphere to the environment through the unit vent. The VP system capacity is sufficient to reduce the concentration of airborne contaminants in the Containment Building to within acceptable levels for personnel access for inspection, maintenance, and testing.

A Radiation Monitor (EMF) package continually monitors the Containment Building atmosphere for radioactive contaminants. The Containment Building EMF package consists of three detectors: 2EMF38 (particulate), 2EMF39 (gaseous) and 2EMF 40 (Iodine). A motor driven vacuum pump [EIIS:P] located on the package draws air from the Containment Building through Containment Isolation Valves [EIIS:ISV] 2MISV5580 (outside) and 2MISV5581 (inside). The air passes through the three detectors and is returned to the Containment Building through Containment Isolation Valves 2MISV5582 (outside) and 2MISV5583 (inside). Each EMF detector [EIIS:DET] on this package has a display/control module in the Control Room that indicates the radiation level of the air drawn through the detector. Each module also has provisions for setting alarms [EIIS:RA] to indicate abnormal radiation levels. If the radiation level reaches the alarm setpoint a visual and audible alarm is actuated in the Control Room. Unit 2 EMFs 38, 39, and 40 will also isolate the VP system through the Solid State Protection system. If 2EMF38, 39, 40 experience a loss of flow, a vacuum switch [EIIS:PDS] on the package will actuate a visual and audible alarm in the Control Room indicating a loss of flow.

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

Technical Specification 3.3.3.9 (Table 3.3-13, Action Statement 38), requires the VP system to be shut down immediately if EMF39 becomes inoperable, (2EMF38 and 40 are not covered by this Technical Specification.) Health Physics Manual Section 16.4, Requirements And Controls For Entry Into Containment Buildings, paragraph 4.2.1, Note A states: "At NO time shall the equipment hatch be opened without purge fans being in operation."

Description of Incident

On May 28, 1987, at approximately 1055, while performing a Nuclear Station Modification (NSM) on control board 2MC8, Construction and Maintenance accidentally shorted the control wiring to Containment Isolation Valves 2MISV5580 and 5582. The control circuit fuse [EIIS:FU] blew causing valves 2MISV5580 and 5582 to close. The vacuum switch on 2EMF38, 39, and 40 detected the high vacuum condition, tripped off the vacuum pump, and actuated the 2EMF38, 39, and 40 loss of flow alarm in the Control Room. Operations acknowledged the alarm and took initial steps to shut down the VP system. Operations requested the Containment Building equipment hatch be closed. Daniels Construction personnel were standing by in the Containment Building to open and close the equipment hatch whenever necessary and they attempted to close the hatch. While closing the hatch, the hatch gasket rolled out of its groove and the hatch could not be closed. Control Room personnel discussed the situation and decided to keep the VP system in operation as long as the equipment hatch was open. Operations contacted Health Physics and informed them of their decision to keep the VP system in operation and Health Physics concurred.

At approximately 1230, during routine observation of the EMF alarm status in the Control Room, Health Physics noticed the loss of flow alarm on 2EMF38, 39, and 40. Health Physics checked with Control Room personnel to verify that the VP system had been secured. The VP system had not been secured and Health Physics discussed with Control Room personnel the need to do so to comply with Technical Specifications. The VP system was shut down at 1230. The gasket on the equipment hatch was repaired and the hatch was closed at 1408. A blown fuse was replaced and flow was restored to 2EMF38, 39 and 40 at approximately 1600.

Conclusion

Operations did not secure the VP system when 2EMF38, 39, and 40 became inoperable due to the loss of flow alarm. Operations knew that they were going to violate Technical Specifications, but their concern was that if the VP system was secured with the equipment hatch open, an unfiltered and unmonitored release of Containment Building atmosphere was possible. Health Physics concurred with the decision of Operations based on Health Physics Manual, Section 16.4, paragraph 4.2.1, which requires the VP system to be in operation when the Containment equipment hatch is open.

The intent of Technical Specification 3.3.3.9 is to prevent an unmonitored gaseous release through the unit vent. While the letter of the Technical Specification

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was not met, the intent of the Technical Specification was met. The VP system was not secured after the loss of flow to 2EMF39 to prevent the possibility of an unmonitored and unfiltered release through the equipment hatch. Control Room personnel were monitoring Unit 2 EMF36 during the time the equipment hatch was open with the VP system in operation. 2EMF36 monitors the unit vent for radioactive gas and has an alarm setpoint equivalent to that of 2EMF39. Operations later secured the VP system with the equipment hatch still open when Health Physics stated there was little radiological concern of terminating VP operation due to the current plant No Mode status. Also, the Technical Specification does not take into consideration the equipment hatch being open in the action statement.

A review of past McGuire Reports revealed no previous similar incidents.

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

CORRECTIVE ACTIONS:

- Immediate: None
- Subsequent: The VP system was shut down.
- Planned: None

SAFETY ANALYSIS:

During the time that 2EMF38, 39, and 40 was inoperable, an identical EMF package, 2EMF35, 36, and 37 (Unit Vent Radiation Monitor) was operable. Unit 2 EMF35, 36, and 37 samples the unit vent, and the high radiation alarm on 2EMF36 is set equivalent to that of 2EMF39. Unit 2 EMF36 would not have automatically secured the VP system, but it would have alarmed and alerted the Control Room of an abnormal amount of radioactivity going out the unit vent. The Containment air samples taken prior to commencing the Containment purge showed radioactivity well below release limits.

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

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

DUKE POWER COMPANY

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
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June 29, 1987

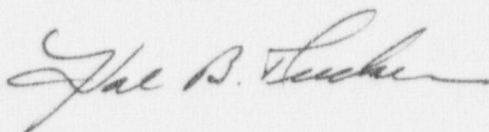
U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: McGuire Nuclear Station, Unit 2
Docket No. 50-370
LER 370/87-06

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 370/87-06 concerning the failure to secure containment purge after flow was lost to the containment radiation monitor. This report is being submitted in accordance with 10CFR 50.73(a)(2)(1)(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/77/jgm

Attachment

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