

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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FACILITY NAME (1) THREE MILE ISLAND, UNIT 1	DOCKET NUMBER (2) 05000289	PAGE (3) 1 OF 5
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TITLE (4)
CONTROL ROOM HABITABILITY BOUNDARY VENTILATION DAMPER FOUND OUT OF POSITION DUE TO LACK OF CONTROLS FOR THAT PARTICULAR DAMPER

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 NAME	DOCKET NUMBER
08	28	98	98	-- 12 --	00	09	25	98		

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10) 100	20.2203(a)(1)	20.2203(a)(3)(i)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	50.73(a)(2)(x)
	20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
	20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
	20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 386A
	20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME BOB KNIGHT, TMI LICENSING ENGINEER	TELEPHONE NUMBER (Include Area Code) (717) 948-8554
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

On August 28, 1998 while TMI-1 was operating at full power, GPU Nuclear discovered that Control Building Ventilation damper AH-D-270 had been opened approximately 50% for as long as 54 days. This condition was determined reportable in accordance with 10CFR50.72(b)(1)(ii)(B) and 10 CFR 50.73(a)(2)(ii) as outside the design basis for Control Room Habitability, and the NRC was notified.

The root cause for this event was found to be lack of controls for damper AH-D-270. There was no identification at the damper that its operation affects Control Room Habitability. The modification package that installed the damper in 1987 required procedure changes that were not completed, and did not identify the damper as a Control Room Habitability barrier.

There were no safety consequences associated with this event. The Control Room Habitability design basis assumes the Control Building emergency envelope receives filtered air from the Air Intake Tunnel. During the period in which AH-D-270 was open, if a design basis accident had occurred, contaminated air from the Auxiliary Building would be drawn in resulting in an increased dose to the operators in the Control Room. Damper AH-D-270 was closed immediately and tagged to ensure that it remains closed. Ductwork was inspected for other openings. Programs and procedures will be reviewed to determine the need for additional guidance.

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CONTROL ROOM HABITABILITY BOUNDARY VENTILATION DAMPER FOUND OUT OF POSITION DUE TO LACK OF CONTROLS FOR THAT PARTICULAR DAMPER

I. Plant Operating Conditions before Event:

TMI-1 was operating at 100% reactor power.

II. Status of Structures, Components, or Systems that were Inoperable at the Start of the Event and that Contributed to the Event:

None.

III. Event Description:

On August 24, 1998, a Control Room Operator (CRO) discovered damper AH-D-270 [VI/DMP] approximately 50% open while investigating Control Room temperature problems (the temperature was approximately 5 degrees higher than the usual 70 degrees F). Damper AH-D-270 was immediately closed.¹ Not understanding that the damper is part of the Control Room Habitability system, the CRO mentioned the misposition to the Shift Technical Advisor (STA) as a contributor to the Control Room temperature rise, and did not log the change. Later in the week, the STA spoke to the HVAC System Engineer about Control Room temperature (which was back to normal). During the discussion of actions taken to reduce temperature, the misposition of AH-D-270 was cited. The System Engineer interviewed the CRO who had closed the damper, and it was determined that the open damper may have affected the Control Room Habitability envelope.

On August 28, 1998 the TMI Plant Review Group (PRG) met to review the operability and reportability of a condition that had been noted on August 24, 1998. The condition with AH-D-270 out of the proper position was determined to be reportable in accordance with 10CFR50.72(b)(1)(ii)(B) as outside of the design basis and the NRC was notified via the Emergency Notification System (ENS) telephone on August 28, 1998. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii).

¹ Since the system engineer had observed AH-D-270 in the proper (closed) position on July 1, 1998 during a system walkdown, this damper was out of position for a period no longer than 54 days between July 1, 1998 and August 24, 1998.

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IV. Component Failure Data:

There were no component failures applicable to this licensee event report.

V. Identification of Root Cause:

The root cause for this event was found to be a lack of controls for damper AH-D-270. The root cause evaluation included interviews with CROs and Auxiliary Operators, review of the Maintenance and Operations log books, review of the modification which installed the damper, a system walkdown, and a review of work requests and job orders that could have affected the position of damper AH-D-270. Review of the normal and abnormal operating procedures found no reference to damper AH-D-270, nor was there any identification at the damper that its operation affects the Control Room Habitability envelope. Although the modification package that installed damper AH-D-270 in 1987 required that appropriate procedures be changed to incorporate its use, those procedure changes were not completed.² Furthermore, the modification package did not identify the damper as a barrier in the Control Room Habitability system.

Damper AH-D-270 was found approximately 50% open and secured in place, so it is improbable that the damper could have drifted open. The change in position of damper AH-D-270 had not been logged in the Operations or Maintenance logbooks. There were no work requests or job orders requesting that the damper be opened, nor had there been any work on the area duct or equipment. This leads to the conclusion that an individual, for a specific reason, opened the damper without any formal request to do so. The individual who opened damper AH-D-270 did not likely understand the effect of his action on Control Building ventilation or the Control Building Habitability Emergency envelope. That individual may have incorrectly believed that opening damper AH-D-270 could help in reducing the elevated Control Room temperatures.

VI. Assessment of the Safety Consequences and Implications of the Event:

This event produced no adverse safety consequences, since the Control Building Ventilation system was not required to be placed in the emergency recirculation configuration at any time while AH-D-270 was open.

Damper AH-D-270 was installed in 1987 to provide an opening on a side of the main supply duct [VI/DUCT] to the Control Building for temporary ventilation purposes. This damper is a manually operated, 20" diameter, Ruskin Mfg. Co. Model CD-50. According to the modification

² The modification process has been changed since 1987; the modification turnover checklist now ensures that any required procedure changes are completed.

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package, damper AH-D-270 should remain closed unless the Control Building Ventilation/Cooling System is unable to function. Although Abnormal Procedure 1203-34, "Control Building Ventilation System," directs personnel to install portable ventilation at the duct, damper AH-D-270 is not specifically referred to in the procedure.

The Control Room Habitability design basis assumes that all of the filtered air supply used to pressurize the Control Building emergency envelope comes from the Air Intake Tunnel source which is approximately 300 feet from the Reactor Building. If, during the period in which AH-D-270 was mispositioned, an emergency required that the Control Building Ventilation System be placed in its emergency mode, the system would be operating outside of its design basis. A large air flowrate would be drawn through AH-D-270, bringing in air from the third floor of the Control Building that is outside of the Control Building emergency ventilation envelope. Air would likely be drawn up into this the third floor of the Control Building from the Auxiliary Building. Since the accident source term from the Auxiliary Building is greater than that used at the Air Intake Tunnel source, this would have resulted an increase in the dose to the operators in the Control Room during a design basis accident.

VII. Previous Events of a Similar Nature:

None.

In June 1998, the a GPU Nuclear study³ of "mispositioning events" was completed following a search of the Corrective Action Program (CAP) database and the Capture System (which was replaced by the CAP) database for the years 1995, 1996, 1997 and 1998. The results showed that the number of mispositioning events at TMI has been low for at least four years and that the controls in place to limit mispositioning events have been effective. It is noteworthy that while the study identified the mispositioning of other types of equipment, this event is the only one involving the mispositioning of a damper.

VIII. Corrective Actions:

A. Actions Taken

Short term corrective actions taken to restore and maintain the Control Building Ventilation System in the proper configuration involved the following:

1. Damper AH-D-270 was closed immediately by the Control Room Operator after discovering it

³ CAP T1998-0287 documents GPU Nuclear action taken in response to an Operations and Maintenance Performance Assessment Team (OMPAT) recommendation to study the occurrence of component mispositioning events at TMI.

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open.

2. A caution tag was placed on AH-D-270 to ensure that it remains closed until the appropriate administrative controls are in place.
3. The ductwork from the Air Intake Tunnel outlet up to the Ventilation Equipment Room was inspected to ensure there were no doors or dampers open that could draw air in from the surroundings. No open access doors or dampers were found. AH-D-270 act as a duct access; all other manual dampers for the Control Building Emergency Ventilation System act as balancing dampers for rooms, and are found high in the overhead and not easily accessible by personnel.

B. Actions Planned

Long term corrective actions include the following:

1. Procedures will be updated by December 1998 to reflect appropriate requirements for, and references to, damper AH-D-270.
2. Programs and procedures will be reviewed to determine the need for additional guidance on maintaining the Control Room Habitability envelope as appropriate during operations and maintenance activities. This review will be completed by April 1999 and any resulting changes will be implemented by June 1999.
3. The air supply duct from the Air Intake Tunnel to the ventilation equipment room in the Control Building will be inspected to identify any openings that may require additional administrative controls similar to the controls being placed on AH-D-270. The inspection will be completed by October 1998.
4. The Biennial Technical Review Committee for Licensed Operator Requalification will evaluate this event for inclusion in licensed operator biennial training during the period 1999 through 2000.

* The Energy Industry Identification System (EIS), System Identification (SI) and Component Function Identification (CFI) Codes are included in brackets, "[SI/CFI]," where applicable, as required by 10 CFR 50.73 (b)(2)(ii)(F).