

Commonwealth Edison Dresden Nuclear Power Station 6500 North Dresden Road Morris, Illinois 60450 Telephone 815/942-2920

April 29, 1994

GFSLTR 94-141

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

Licensee Event Report 94-007, Docket 50-237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10CFR50.73(a)(2)(x).

Sincerely,

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Gary F. Spedl (Station Manager Dresden Station

GFS/SJR/cfq

Enclosure

cc: J. Martin, Regional Administrator, Region III NRC Resident Inspector's Office File/NRC File/Numerical



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NRC FORM	IRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION 5-92)								APPROVED BY ONE NO. 3150-0104 EXPIRES 5/31/95								
	LICENSEE EVENT REPORT (LER)										ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.						
FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2								DOCKET NUMBER (2) 05000237				PAGE (3) 1 OF 3					
TITLE (4) Potentially Unanalyzed Control Room Habitability Condition Due to Purge Mode																	
EVEN	T DATE	(5)			LER NUMBER (6)		REPO	RT DATE	(7)	OTHER FACILITIES INVOLVED (8)						
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OPERATING THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)																	
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																	
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YES (If yes, complete EXPECTED SUBMISSION DATE). X NO						SUBMISSION DATE (15)											

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

On March 30, 1994, at 1700 hours, with Unit 2 at 100% rated core thermal power and Unit 3 in refueling outage (D3R13), a System Engineer noticed that the Control Room heating ventilation and air conditioning (HVAC) system was operating in the outside purge mode. In the outside purge mode, the Control Room HVAC system takes greater than 2000 cfm outside make-up air. The Control Room habitability was analyzed based on normal outside make-up air flow rate of 2000 cfm. As a result of the Control Room habitability analysis, the existing operating procedure requires that the Control Room HVAC system be isolated within 40 minutes of receiving a high radiation signal from the Reactor Building vent duct to minimize the radiation dose received by the Control Room personnel. Therefore, upon review of the Control Room habitability study, it was determined that the Control Room HVAC system was operated in a potentially unanalyzed Control Room habitability condition. The Control Room HVAC system was immediately taken to the normal mode and was restricted from use in outside purge mode by placement of an equipment out-of-service. The safety significance ot this event is minimal because the back up emergency safety related HVAC train 'B' and the air filtration unit were operable and in standby to meet the Control Room habitability requirements.

NRC FORM 366A U.S. NUCLEAR RE	GULATORY CONNISSION	APPROVED BY ONB NO. 3150-0104 EXPIRES 5/31/95					
LICENSEE EVENT REPORT (LE TEXT CONTINUATION	ESTIMAT THIS I FORWARD THE IN (MNBB 7 WASHING REDUCTI MANAGEM	TED BURDEN PER NFORMATION COLLE COMMENTS REGA FORMATION AND F 7714), U.S. NUCLE STON, DC 20555-0 ION PROJECT (MENT AND BUDGET,	O COMPLY WITH EST: 50.0 HRS. IN ESTIMATE TO AGEMENT BRANCH DRY COMMISSION, THE PAPERWORK OFFICE OF DC 20503.				
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

EVENT IDENTIFICATION:

Potentially Unanalyzed Control Room Habitability Condition Due to Purge Mode

PLANT CONDITIONS PRIOR TO EVENT:

Unit:	2/3	Event Date:	: March 30, 1994	Event Time: 1700 hours
Reactor	Mode: N (N)	Mode Name:	Run (Refuel)	Power Level: 100(0)
Reactor	Coolant System	Pressure:	987 (0)psig	

B. DESCRIPTION OF EVENT:

On March 30, 1994, at 1700 hours, with Unit 2 at 100% rated core thermal power and Unit 3 in refueling outage, a Control Room heating ventilation air conditioning (HVAC) System Engineer noticed that the normal train 'A' Control Room HVAC system was operating in the outside purge mode. In the outside purge mode, the Control Room HVAC system takes greater than 2000 cfm outside air. The Control Room habitability was analyzed based on normal outside make-up air flow rate of 2000 cfm. As a result of the Control Room habitability analysis, the existing operating procedure requires that the Control Room HVAC system be isolated within 40 minutes of receiving a high radiation signal from the Reactor Building vent duct to minimize the radiation dose received by the Control Room personnel. Therefore, upon review of the Control Room habitability study, it was determined that the Control Room HVAC system was operated in a potentially unanalyzed Control Room habitability condition. The Control Room HVAC system was immediately taken to the normal mode and it was restricted from use in the outside purge air mode by placement of an equipment out-of-service.

C. <u>CAUSE OF EVENT</u>:

This report is being submitted in accordance with 10CFR50.73(a)(2)(x) which requires the licensee to report any event that posed an actual threat to the safety of the nuclear power plant or significantly hampered site personnel in the performance of duties necessary to the safe operation of the nuclear power plant including fires, toxic gas releases, or radioactive releases. Apparent root causes of this event are: 1) no automatic isolation logic upon a high radiation signal and 2) a lack of knowledge in Control Room habitability requirements. The non-safety related train 'A' air compressor was out of service for a routine air compressor heat exchanger preventive maintenance surveillance and corrective maintenance on the temperature controller. As a result of the equipment not being available, the Control Room temperature could not be maintained at a personnel comfort range of 70 to 80 degree F. It was maintained at approximately 82 degree F. Due to personnel discomfort in the Control Room, the Control Room personnel decided to place the Control Room HVAC Air Flow Control switch into the outside purge mode to receive cooler outside air.

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

D. <u>SAFETY ANALYSIS</u>:

The Dresden Unit 2 and 3 Control Room and its associated HVAC equipment room are located in the Turbine Building at elevation 534' and 549', respectively. The Control Room HVAC system serves the Control Room emergency zones which include the Control Room, the Train "B" Equipment room and the Auxiliary Computer room. The Control Room HVAC system consists of two independent trains which include separate outside air intakes and an emergency air filtration unit (AFU).

The function of the Control Room ventilation system is to: 1) maintain Control Room temperature within the design range, 2) provide adequate radiation protection to permit access and occupancy of the Control Room under accident conditions, 3) provide protection from a toxic gas release, and 4) provide protection from fire and smoke (train A only).

During normal unit operation, the station utilizes non-safety related train 'A' Control Room HVAC system to provide a comfortable working environment, to provide protection from toxic gas and to provide protection from fire and smoke for the Control Room personnel. Upon detection of either ammonia or methyl chloride gas, the outside air intakes and Control Room kitchen and locker room exhaust dampers are automatically isolated and the HVAC system placed in recirculation mode. Also when activated by smoke sensors, the HVAC system switches automatically to a purge mode with 100% outside air. In the event of a design basis accident (DBA) or a loss of coolant accident (LOCA), it utilizes the emergency back-up train 'B' Control Room HVAC system and the emergency AFU to maintain the habitability of the Control Room such that the plant can be safely shutdown under a design basis accident condition. Since the probability of having outside purge mode with a LOCA that results in significant fuel damage is considered to be very small and the back up emergency safety related HVAC train 'B' and the emergency AFU were operable to meet the Control Room habitability requirements, the safety significance of this event is considered minimal.

CORRECTIVE ACTIONS:

The Control Room HVAC system was immediately taken to the normal mode and was restricted from use in the outside purge mode by placement of an equipment outof-service card on thr Control Room Air Flow Control switch. Future corrective actions to be taken are: 1) Control Room HVAC system flow rate will be measured and balanced as part of the Detail Control Room Design Review (DCRDR) modification (NTS 237-180-94-00701), 2) a design change request will be initiated per Dresden Administration Procedure (DAP) 05-02 to install an automatic isolation function of the Control Room HVAC intake upon a high radiation signal (NTS 237-180-94-00702).

F. **PREVIOUS OCCURRENCES:**

There is no previous Licensee Event Report (LER) regarding this issue.

G. <u>COMPONENT FAILURE DATA:</u>

There is no component failure associated with this event