

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT										DOCKET NUMBER (2) 0 5 0 0 0 3 3 3				PAGE (3) 1 OF 0 3									
TITLE (4) LOSS OF HPCI DUE TO STEAM LINE ISOLATION ON HIGH AMBIENT TEMPERATURE																							
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	7	2	5	8	5	8	5	0	2	0	0	1	1	0	1	5	8	5	0	5	0	0	0
OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)																					
POWER LEVEL (10) 1 0 0		20.402(b)				20.406(e)				50.73(a)(2)(iv)				73.71(b)									
		20.406(a)(1)(i)				50.36(a)(1)				50.73(a)(2)(v)				73.71(e)									
		20.406(a)(1)(ii)				50.36(a)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)									
		20.406(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(A)													
		20.406(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)													
		20.406(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																							
NAME VICTOR M. WALZ										TELEPHONE NUMBER AREA CODE 3 1 5 3 4 2 - 3 8 4 0													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																							
CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPROS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPROS													
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 fifteen single-space typewritten lines) (16)

During normal plant operations at 100% power at 0830, an automatic isolation of the High Pressure Coolant Injection (HPCI) System steam line occurred due to high ambient temperature in the area of one steam leak detection sensor located in the "A" RHR heat exchanger room. Isolation of the HPCI steam line caused the HPCI System to become inoperable which was required per JAF Technical Specifications (App. A, Sec. 3.5). It was determined that high Reactor Building ambient temperatures resulted due to a shutdown and isolation of the normal Reactor Building Ventilation System including all supply and exhaust fans to permit maintenance to an exhaust plenum. The ventilation system was returned to service at approximately 0833 and ambient temperatures were reduced below the isolation setpoint at 0839. The HPCI isolation circuitry was reset and HPCI operability restored at 0839. The Reactor Water Cleanup (RWCU) system was also isolated due to high ambient temperature during this event. The Operations personnel involved has received guidance concerning the securing of major plant ventilation systems when outside ambient environmental conditions and circulating water temperatures are near design limits. In addition, an engineering review of the subject ambient temperature sensors has been performed to verify the adequacy of the existing setpoints. Based on this review, ambient temperature isolation setpoints in both RHR Heat Exchanger Rooms and Reactor Water Cleanup Pump Rooms have been increased. There were no equipment/component failures during this event.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT	DOCKET NUMBER (2) 0 5 0 0 0 3 3 3 8 5 — 0 2 0 — 0 1 0 2 OF 0 3	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A's) (17)

I. Plant Conditions - The plant was operating normally at approximately 100% thermal power (2431 mw) when the event occurred. The major components of the Reactor Building Ventilation System including all supply and exhaust fans were secured as a result of a maintenance request to replace turning vanes in an exhaust duct above the refueling floor. The entire Reactor Building was isolated and the Standby Gas Treatment System (SBGTS) was put into service to maintain the required building differential pressure. As a result of securing the ventilation system, ambient temperatures increased in various areas of the Reactor Building. In two particular areas, which did not contain supplemental local unit cooling, two steam leak detection temperature sensors reached the isolation setpoint.

II. Event

- A. HPCI (BJ) System (0830) - A leak detection temperature sensor (23RTD-01B) located near a HPCI branch steam line to RHR Heat Exchanger "A" in the west heat exchanger room detected a temperature increase and initiated isolation logic at its trip setpoint of approx. 133 degrees F. Initiation logic caused HPCI outboard isolation bypass valve 23MOV-60 (Div. A) to close. This caused the HPCI System to be inoperable. Based on operator information, the ambient temperature did not exceed 135 degrees F.
- B. RWCU (CE) System (0825) - A leak detection thermocouple located in the "B" RWCU pump sensed high ambient temperature and initiated an isolation of the RWCU System from the reactor. The temperature setpoint for this isolation is also 133 degrees F.
- C. The normal Reactor Building ventilation line-up was restored immediately upon experiencing the auto-isolations. Ambient temperatures immediately decreased allowing re-set of the HPCI and RWCU isolation signals at 0839.

III. Causes

- A. Procedural Inadequacy - A major building ventilation system was secured with the outside ambient conditions near design values. Inadequate guidance is provided in the plant operating procedures for performing such evolutions and assessing possible adverse effects on plant systems and equipment.
- B. Design Considerations
1. HPCI Leak Detection System - The sensor (23RTD-01B) which initiated the isolation signal was installed during the Spring, 1985 refueling outage to supplement existing steam line detection system sensors. These sensors were added to minimize and mitigate the effects of postulated HPCI steam line breaks. The setpoints for the new sensors were selected to be identical to the existing HPCI/RCIC steam leak detection sensors. This value, as specified in Table 3.2-2 of the JAF Technical Specifications, is less than or equal to 40 degrees F above maximum ambient temperature. Maximum ambient temperature for the Reactor Building based on plant data is 104 degrees F. Therefore, the original leak detection sensors and the new
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EXPIRES 9/31/85

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TEXT (If more space is required, use additional NRC Form 365A (1) (17))

sensors are calibrated to provide an isolation signal less than 140 degrees F. The exact setpoint is 133 degrees F to account for instrument tolerance and drift.

Following the event, a review of Summer, 1985 temperature data for the "A" RHR Heat Exchanger Room showed that normal temperatures often exceed 120 degrees F and occasionally 125 degrees F. A review of the Summer, 1985 temperature data for the other seven new sensors showed maximum normal temperatures of less than 105 degrees F.

The higher than normal maximum temperatures for the "A" RHR heat exchanger room is attributed to its closed design with minimal ventilation and air movement.

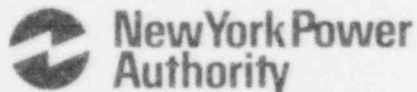
2. RWCU Leak Detection System - The sensor (12TE-117C), which initiated the RWCU System isolation signal is located near the "B" RWCU pump. Its isolation setpoint is the same as the HPCI System setpoint (133 degrees F). The RWCU pump is also located in an almost totally enclosed room and is provided with minimal ventilation.

IV. Corrective Actions

- A. Operating Procedures - The operating procedures for major building ventilation systems were supplemented to provide guidance when removing major ventilation systems from service and the necessity for monitoring the results of such an action.
- B. Engineering - Plant design changes to increase the setpoints of the subject HPCI/RWCU temperature sensors have been developed and implemented. In order to establish the correct setpoints a thorough review of maximum ambient temperature data in the area of all of the new steam leak detection sensors was performed. The bases for the setpoint change was a detailed review of ambient temperature data taken in the applicable areas of the Reactor Building from May, 1985 through September, 1985. Based on this review, new steam leak detection setpoints were established for RHR "A" and "B" Heat Exchanger Rooms (158 degrees F) and the RWCU "A" and "B" Pump Rooms (152 degrees F). In performing this evaluation, the following technical issues were addressed and resolved:
 1. High Energy Line Break (HELB) Analysis - including the effects of increased mass release and instrument response time due to the higher setpoints.
 2. Electrical Equipment Qualification - the effects of a higher than previously established maximum normal temperatures in the subject areas and the effects of a higher peak HELB temperature.
 3. Sensitivity between High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) steam leak detection setpoints.
 4. Calculated instrument tolerance and drift.

James A. FitzPatrick
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Radford J. Converse
Resident Manager



October 16, 1985
JAFP 85-0822

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Reference: DOCKET NO. 50-333 Licensee Event Report: 85-020-01

Dear Sir:

Enclosed please find the referenced Licensee Event Report in accordance with the requirements of 10CFR50.73.

If there are any questions concerning this report, please contact Mr. Victor M. Walz at (315) 342-3840, Extension 265.

A handwritten signature in cursive script, appearing to read 'R. Converse'.

RADFORD J. CONVERSE

RJC:VMW:ls
ENCLOSURE

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