



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038  
Hope Creek Operations

February 19, 19~~88~~<sup>90</sup>

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

Dear Sir:

HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354  
UNIT NO. 1  
LICENSEE EVENT REPORT 90-002-00

This Licensee Event Report is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv).

Sincerely,

J.J. Hagan  
General Manager -  
Hope Creek Operations

RBC/

Attachment  
SORC Mtg. 90-018

C Distribution

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PDR ADCK 05000354  
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LICENSEE EVENT REPORT

FACILITY NAME (1) HOPE CREEK GENERATING STATION	DOCKET NUMBER (2) 0   5   0   0   0   3   5   4	PAGE (3) 1   OF   4
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TITLE (4): HIGH DIFFERENTIAL TEMPERATURE IN HIGH PRESSURE COOLANT INJECTION ROOM (HPCI) RESULTS IN ENGINEERED SAFETY FEATURE ACTUATION (HPCI OUTBOARD ISOLATION VALVE) - EQUIPMENT MALFUNCTION

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	**	NUMBER	**	REV	MONTH	DAY	YEAR	FACILITY NAME(S)	DOCKET NUMBER(S)
0	1	1990	90	-	002	-	00	0	2	1990		

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR: (CHECK ONE OR MORE BELOW) (11)									
POWER LEVEL 0   9   5		20.402(b)		20.405(c)	XX	50.73(a)(2)(iv)		73.71(b)			
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in	Abstract below and in Text)		
		20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)					
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)					
	20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)						

LICENSEE CONTACT FOR THIS LER (12)											
NAME R.B. Cowles, Senior Staff Engineer - Technical								TELEPHONE NUMBER 6   0   9   3   3   9   5   2   6   4			

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE NOTED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS?	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS?	
SUPPLEMENTAL REPORT EXPECTED? (14) YES   NO   XX					DATE EXPECTED (15)			MONTH   DAY   YEAR		

ABSTRACT (16)

On 1/19/90 at 0717, the HPCI Outboard Steam Supply Isolation Valve (HV-F003) auto-closed on a High Room Differential Temperature Signal via the Steam Leak Detection System. Investigation by control room personnel determined that the signal was initiated due to the differential between outside ambient air temperature sensed in the ventilation supply to the HPCI room (approximately 36° F.) and HPCI room exhaust temperature (approximately 105° F.). Room Coolers for the HPCI room were manually placed in service to lower the room temperature to enable resetting of the isolation. HV-F003 was re-opened at 0802, and HPCI was returned to a normal, standby lineup. The root cause of this event was determined to be an inoperative temperature control loop which necessitated isolating heating steam to the Reactor Building Ventilation System (RBVS) to control reactor building temperatures. Corrective actions include initiating troubleshooting of the temperature control loop to determine the source of loop malfunction, conducting thermography in the HPCI room to determine sources of excessive heat, and reviewing this incident with all Operations Department personnel.

LICENSING EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)						
		YEAR	**	NUMBER			**	REV						
HOPE CREEK GENERATING STATION	05000354	90	-	0	0	2	-	0	0	0	2	OF	0	4

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)  
 High Pressure Coolant Injection (EIIS Designation: BJ)  
 Reactor Building Ventilation System (EIIS Designation: )

IDENTIFICATION OF OCCURRENCE

High Differential Temperature In High Pressure Coolant Injection (HPCI) Room Results in Engineered Safety Feature Actuation (HPCI Outboard Steam Supply Isolation Valve Closure) - Equipment Malfunction

Event Date: 1/19/90

Event Time: 0717

This LER was initiated by Incident Report No. 90-004

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 1 (Power Operation), Reactor Power 96%, Unit Load 1060MWe.

DESCRIPTION OF OCCURRENCE

On 1/19/90 at 0717, the HPCI Outboard Steam Supply Isolation Valve (HV-F003) auto-closed on a High Room Differential Temperature Signal via the Steam Leak Detection System. Investigation by control room personnel determined that the signal was initiated due to the differential between outside ambient air temperature sensed in the ventilation supply to the HPCI room (approximately 36° F.) and HPCI room exhaust temperature (approximately 105° F.). Room Coolers for the HPCI room were manually placed in service to lower the room temperature to enable resetting of the isolation. HV-F003 was re-opened at 0802, and HPCI was returned to a normal, standby lineup.

ANALYSIS OF OCCURRENCE

Due to unseasonably high outside air temperatures, the Heating Steam System supply to the Reactor Building Ventilation System (RBVS) had been isolated the previous day due to a previously identified problem with the RBVS temperature control loop. During the ensuing evening, outside air temperature decreased, but heating steam was not returned to service. As previously noted, at the time of this event, ventilation supply temperature to the HPCI room had decreased to about 36° F.

LICENSE EVENT REPORT (LER) TEXT CONTINUATION

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The HPCI room is normally maintained at between 90° and 100° F., which appears, based on limited industry sampling, to be consistent with HPCI room temperatures at other BWRs. However, at the time of this occurrence, the HPCI room temperature was about 105°. (PSE&G will be conducting thermography of the HPCI room to determine sources of excessive heat.)

The Steam Leak Detection System is set to isolate HV-F003 at 70° differential temperature between the room supply and exhaust ventilation on the assumption that a steam line break has occurred and caused this differential temperature. There is no alarm prior to the isolation signal to alert operators that room temperature is approaching the isolation trip setpoint. When the outside ambient air had decreased to a temperature sufficient to reach this differential temperature trip setpoint, HPCI isolated.

APPARENT CAUSE OF OCCURRENCE

The root cause of this occurrence was an equipment malfunction in the RBVS temperature control loop which necessitated isolating the heating steam system. Contributing to the event was the fact that heating steam to the RBVS had been removed from service and that the consequences of this condition were not recognized by control room personnel as outside air temperatures decreased through the night. As a result, heating steam was not returned to service.

PREVIOUS OCCURRENCES

There has been one previous occurrence at Hope Creek of isolating HPCI due to high room differential temperature (Reference: LER 87-007). This occurrence was attributed to instrument drift in the differential temperature monitoring circuitry and an inadequately established setpoint. The differential temperature monitor was recalibrated, and the setpoint was raised from 60° F. differential to 70° F. differential.

SAFETY SIGNIFICANCE

As previously noted, no steam leak occurred, and as such the health and safety of the public was not compromised. This event represents an unnecessary challenge to a plant safety system. During the time HPCI was out of service (about 50 minutes), the Reactor Core Isolation Cooling system (RCIC) provided backup to the HPCI system.

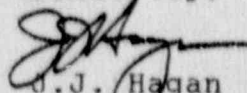
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CORRECTIVE ACTIONS

1. The RBVS heating steam and chilled water systems were returned to a normal winter configuration.
2. The RBVS heating steam temperature control loop will be calibrated or repaired, as necessary, based on completion of troubleshooting activities.
3. PSE&G will conduct thermography of the HPCI room to determine sources of excessive room temperatures.
4. This incident will be discussed with all Operations Department personnel to stress the need for remaining aware of changing weather conditions which could affect operability of plant systems.

Sincerely,



J.J. Hagan  
General Manager -  
Hope Creek Operations

RBC/

ECRC Mtg. 90-018