



**DEC 20 2000**

LRN-00-0498

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

Gentlemen:

**LER 354/00-011-00**  
**HOPE CREEK GENERATING STATION**  
**FACILITY OPERATING LICENSE NO. NPF-57**  
**DOCKET NO. 50-354**

This Licensee Event Report "Entry Into Technical Specification 3.0.3 Due to Loss of Two Independent Control Room Emergency Filtration Systems" is being submitted pursuant to the requirements of the Code of Federal Regulations 10CFR50.73(a)(2)(i). The attached LER contains no commitments.

Sincerely,

A handwritten signature in black ink, appearing to read "D. F. Garchow".

D. F. Garchow  
Vice President -  
Operations

Attachment

/CLB

C Distribution  
LER File 3.7

*IE22*

<b>NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION</b> (6-1998)	<b>APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001</b> Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)	

<b>FACILITY NAME (1)</b> Hope Creek Generating Station	<b>DOCKET NUMBER (2)</b> 05000354	<b>PAGE (3)</b> 1 OF 5
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**TITLE (4)**  
 Entry into Technical Specification 3.0.3 Due To Loss of Two Independent Control Room Emergency Filtration Systems

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
11	21	00	00	011	00	12	20	00	FACILITY NAME	DOCKET NUMBER
									FACILITY NAME	DOCKET NUMBER
										05000
										05000

<b>OPERATING MODE (9)</b>	1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)</b>								
		20.2201(b)		20.2203(a)(2)(v)	x	50.73(a)(2)(i)		50.73(a)(2)(viii)		
<b>POWER LEVEL (10)</b>	99%	20.2203(a)(1)		20.2203(a)(3)(i)		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 366A		
		20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)				

LICENSEE CONTACT FOR THIS LER (12)	
<b>NAME</b> Carl Berger, Licensing Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> 856-339-1432

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
X	CHU	TS	R290	Yes					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

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

On November 21, 2000, at 1027 hours, the A Control Room Chiller had been tagged and made inoperable for scheduled work on the Hot Gas Bypass valve temperature control setpoint. On November 21, 2000, at 1308 hours, the B Control Room Chiller and associated fans tripped on an apparent high bearing oil temperature condition. As a result of the trip of the B chiller, Technical Specification (TS) 3.0.3 was entered due to the loss of both trains of control room emergency filtration units. The apparent cause of the B chiller trip has been attributed to a high bearing oil temperature signal caused by the failure of the high thrust bearing temperature switch. A loose wire connected to the common power supply input to these modules was also detected. When the old module was bench tested it was found failed open in the tripped condition and required numerous cycling of the test equipment to get the switch to re-close. Corrective Actions taken were: the failed RobertShaw module was replaced with a new module; the loose wire was tightened and all others checked prior to installing the new module; the remaining RobertShaw modules on the A and B chillers will be replaced at the next opportunity.

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

**PLANT AND SYSTEM IDENTIFICATION**

General Electric - Boiling Water Reactor (BWR/4)  
Control room emergency filtration system EIIS Identifier {VI}\*  
Chiller Unit EIIS Identifier {CHU/TS}\*

\* Energy Industry Identification System (EIIS) codes and component function identifier codes appear as {SS/CC}

**IDENTIFICATION OF OCCURRENCE**

Event Date: November 21, 2000  
Discovery Date: November 21, 2000

**CONDITIONS PRIOR TO OCCURRENCE**

The plant was in OPERATIONAL CONDITION 1 (POWER OPERATION). One train of the control room emergency filtration system was inoperable due the A chiller being out of service for maintenance.

**DESCRIPTION OF OCCURRENCE**

On November 21, 2000, Hope Creek was in Operational Condition 1, Power Operation, with reactor power at approximately 99 percent. On November 21, 2000, the A Control Room Chiller {CHU} had been tagged and made inoperable at 1027 hrs for scheduled work on the Hot Gas Bypass valve temperature control setpoint. Technical Specification (TS) 3.7.2 action statement requires that in operational condition 1, 2 or 3, with one control room emergency filtration {VI}(CREF) subsystem inoperable, the inoperable system must be restored to operable status within 7 days. Therefore, Hope Creek was operating in a 7-day limiting condition for operation (LCO).

On November 21, 2000, at 1308 hours, the B Control Room Chiller and associated fans tripped on an apparent high bearing oil temperature condition. The control room received overhead alarms {ANN} E6-B1, E5-C2, and E5-D2, and flashing stop lights on BP-400, BK-400, BV-403, BV-407 and BV-415 (after a delay). Following receipt of these alarms a non-licensed field operator was dispatched to verify the source and nature of the alarms. The operator reported confirmation of a high bearing oil temperature alarm on the local panel.

As a result of the trip of the B chiller, Technical Specification (TS) 3.0.3 was entered due to the loss of both trains of control room emergency filtration units.

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**DESCRIPTION OF OCCURRENCE** (Continued)

TS 3.0.3 states in part; "When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours."

Therefore, according to the Hope Creek TS, Hope Creek licensed operators entered TS action statement 3.0.3, started preparations to commence a plant shutdown and reported the event in accordance with the requirements of 10 CFR 50.72 (b)(2)(iii). Additionally, operators expedited efforts to restore the A Control Room Chiller to operable status. On November 21, 2000, at 1402 hours, the A Control Room Chiller was declared operable and placed in service, therefore exiting TS 3.0.3.

This event is also reportable in accordance with the requirements of 10 CFR 50.73 (a)(2)(i)(B), any operation or condition prohibited by the plant Technical Specifications.

**APPARENT CAUSE OF OCCURRENCE**

The apparent cause of the B chiller trip has been attributed to a high bearing oil temperature signal. The high bearing temperature signal was due to a failure of the high thrust bearing temperature switch (GJ-TSH-9652B3). A loose wire connected to the common power supply input to these modules was also detected.

The A chiller had been taken out of service to change the temperature control set point of the Hot Gas Bypass valve. This work was being performed as an enhancement to the chiller operation, and had no consequences or implications relative to the failure of the B chiller.

**SAFETY SIGNIFICANCE AND IMPLICATIONS**

There were no actual safety consequences associated with this condition since a loss of the Control Room Emergency Filtration system did not occur concurrently with any event that would have required its actuation.

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**SAFETY SIGNIFICANCE AND IMPLICATIONS** (Continued)

As stated in the Hope Creek TS bases, the operability of the control room emergency filtration system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all design basis accident conditions. Maintaining system operability in conjunction with control room design provisions limits the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion (GDC) 19 of Appendix "A", 10 CFR Part 50.

The implications and significance of losing both Control Room Emergency Filtration Systems is the potential for not satisfying the protection requirements of GDC 19, should a design basis accident have occurred during that time period. However, due to the very short time both control room filtration trains were unavailable, public health and safety were unaffected.

Based on the above, there was no threat to the public health or safety as a result of this condition.

**PREVIOUS OCCURRENCES**

A review of previously reported Hope Creek events within the past two years identified no previous similar occurrences involving failures of the temperature modules or required shutdown due to the inoperability of the control room emergency filtration system.

**CORRECTIVE ACTIONS**

1. The failed RobertShaw module was replaced with a new module.
2. The remaining RobertShaw modules on the A and B Control Room Chillers will be replaced at the next available opportunity.
3. The loose wire was tightened and all others checked prior to installing the new module.
4. The System Manager performed a field walk down of the B Control Room Chiller after restart to check for normal operating parameters and

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**CORRECTIVE ACTIONS** (Continued)

oversee the repairs of the Oil Cooler Thermal Expansion Valve, which was also worked during the forced system outage.

**COMMITMENTS**

The corrective actions cited in this LER are voluntary enhancements and do not constitute commitments.