



OCT 23 2006

10CFR50.73

LR-N06-0425

United States Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-001

Hope Creek Generating Station Unit 1  
Facility Operating License No. NPF-57  
Docket No. 50-354

Subject: Licensee Event Report 06-004-00

In accordance with 10 CFR 50.73(a)(2)(i)(B), PSEG Nuclear LLC, is submitting Licensee Event Report Number 06-004-00, Docket No. 50-354.

Should you have any questions concerning this letter, please contact Mr. Frederick Berg at (856) 339-3108.

Sincerely,

A handwritten signature in cursive script that reads "Michael J. Massaro".

Michael J. Massaro  
Plant Manager  
Hope Creek Generating Station

Attachment: Licensee Event Report

IE22

OCT 23 2006

cc: Mr. S. Collins, Administrator - Region 1  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. S. Bailey, Licensing Project Manager - Hope Creek  
U.S. Nuclear Regulatory Commission  
Mail Stop 08B1  
Washington, DC 20555-0001

USNRC Resident Inspector office - Hope Creek (X24)

Mr. K. Tosch, Manager IV  
Bureau of Nuclear Engineering  
P.O. Box 415  
Trenton, NJ 08625

# LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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>1. FACILITY NAME</b> Hope Creek Generating Station	<b>2. DOCKET NUMBER</b> 05000 354	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
Main Steam Line Radiation Monitor Set Points

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
08	23	2006	2006	- 004 -	00	10	23	2006	N/A	
									FACILITY NAME	DOCKET NUMBER
									N/A	

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> (Check all that apply)									
<b>10. POWER LEVEL</b>  100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A						

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME Frederick W. Berg, Compliance Engineer	TELEPHONE NUMBER (Include Area Code) 856-339-1160
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b> MONTH:      DAY:      YEAR:
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

Latent errors in the Technical Specification Daily Surveillance Log rendered all Main Steam Line Radiation Monitors (MSLRMs) inoperable due to non-conservative monitor set points. Subsequent crew errors in implementing the required actions of the Technical Specifications led to Technical Specification (T/S) non-compliance.

On August 23, 2006, PSEG determined that the set points for the MSLRMs were above the maximum allowable T/S Table 3.3.2-2 value of 3.6 times full power background. The required T/S Action to place an inoperable channel in both trip systems in the tripped condition within one hour was not completed.

Causes include:

- Guidance contained in the Technical Specification Daily Surveillance Log was incorrect.
- Operability Screening did not initially recognize that all four MSLRMs were inoperable.
- Crew independent review was not effective; the reviewer did not ensure that correct actions for inoperability were initiated.

**LICENSEE EVENT REPORT (LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Hope Creek Generating Station	05000354	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		2006	- 004	- 00	

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

**PLANT AND SYSTEM IDENTIFICATION**

General Electric – Boiling Water Reactor (BWR/4)  
Main Steam – EIS Identifier {SB}\*

\*Energy Industry Identification System {EIS} codes and component function identifier codes appear as {SS/CCC}

**IDENTIFICATION OF EVENT**

Event Date: August 9, 2006  
Discovery Date/Time: August 23, 2006 - 1610

**CONDITIONS PRIOR TO EVENT**

Hope Creek was in Operational Condition 1 with reactor power at approximately 100% prior to the discovery of the incorrect set points. No structures, components, or systems were inoperable at the time of discovery that contributed to the event.

**DESCRIPTION OF EVENT**

PSEG procedure, HC.OP-DL.ZZ-0026, Technical Specification Daily Surveillance Log, was misleading and did not stipulate that the monitor was inoperable if the thresholds were exceeded. The log requires Engineering to evaluate the 3 times full power background set point when the ratio of actual to baseline average full power background reaches 1.0 plus or minus 20%. Based on the calibration method, the ratio should have been 0.833 to 1.2.

On 8/15/06 a notification was generated for System Engineering to reevaluate MSLRM background set points, due to the HC.OP-DL.ZZ-0026 (Q) Main Steam Line (MSL) Average Full Power Background Check approaching the 80% limit in the procedure. The lowering background radiation levels were a result of application of noble metals during the refueling outage that ended on May 6, 2006. Action to reevaluate MSLRM background set points was delayed based on 1) the 80% value had not been exceeded and 2) the log did not stipulate that the monitor was inoperable if the thresholds were exceeded.

On 8/23/06 the MSL Average Full Power Background Check for "C" MSLRM was determined to be 0.79, below the threshold of 0.80 and a notification was created. The Control Room Supervisor (CRS) directed System Engineering to review the notification and commence evaluation of the MSLRM set points for re-adjustment using HC.SE-GP.SP-0001, Main Steam Line Rad Monitor Setpoint Determination.

While performing the operability screening on this notification, the CRS reviewed HC.SE-GP.SP-0001 and T/S 3.3.2. After evaluation, the CRS determined that using the current full power background MSLRM levels and the existing trip set points, the set points were above the maximum allowable value of 3.6 times full power background for three of the four MSLRMs.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Hope Creek Generating Station	05000354	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 4
		2006 - 004 - 00			

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

After a brief discussion and review of the data, the Shift Manager (SM) and the CRS determined that the "A", "B", & "C" MSLRMs were inoperable. A discussion with the SM, CRS, and Assistant Operations Manager (AOM) led to the conclusion that a 24 hour grace period, similar to that allowed for MSLRM setpoint adjustments following Hydrogen Water Chemistry Injection system trip or removal from service, could not be applied and the T/S Action must be entered.

At ~1610 the CRS entered the T/S Action Statement (TSAS) for three inoperable monitors, "A", "B", & "C". The T/S requirement for 3 inoperable channels is 1 hour to place "A" and "C" MSLRMs in the tripped condition and 24 hours to place the "B" MSLRM in the tripped condition. While the paper work was being prepared, the AOM noted that the "D" channel was also inoperable for exceeding the 3.6 times value, and the paperwork was adjusted for all four channels. T/S 3.3.2 Action c. was entered and documented in TSAS 06-309. Maintenance was contacted to place "A" and "C" channels in the trip condition.

At ~1654 MSLRM channel "A" was placed in the tripped condition.

At ~1657 MSLRM channel "C" was placed in the tripped condition.

At ~1805 the on-coming SM noted that the T/S 3.3.2 Action c. also required tripping of the "B" & "D" channels or isolating the reactor sample valves within the one hour if there are no operable channels.

At ~1814 the reactor sample valves were closed to meet the T/S required Action. This was not accomplished within the required one hour from declaration of inoperability.

A review of the Technical Specification Daily Surveillance Log determined that at least one of the MSLRMs had been below the operability threshold of .833 since 8/9/2006. Due to the error of designating the threshold for readjustment at 0.80 in the daily log, the appropriate T/S Actions were not taken at the time. This condition is reportable per 10CFR50.73(a)(2)(i)(B), "operation or condition prohibited by Technical Specifications".

CAUSE OF EVENT

Causes of the event include:

- Guidance contained in HC.OP-DL.ZZ-0026 (Q) Technical Specification Daily Surveillance Log was incorrect. This latent error was not previously detected since normal MSLRM background level response is to increase over the cycle causing the fixed setpoint to become more conservative before adjustments are necessary.
- Operability Screening did not initially recognize that all four MSLRMs were inoperable.
- Crew independent review was not effective; the reviewer did not ensure correct actions for inoperability were initiated.

EXTENT OF CONDITION

1. A review of the remaining HC.OP-DL.ZZ-0026 (Q) readings found no similar circumstances in that all other required T/S readings provided correct guidance for action when exceeding threshold values. Calculations, when required, were determined to be clear and concise.

**LICENSEE EVENT REPORT (LER)**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Hope Creek Generating Station	05000354	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		2006	- 004	- 00	

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**PREVIOUS OCCURRENCES**

A review of events for the two prior years at Hope Creek identified a delayed operability assessment on Control Room Emergency Filtration system (LER 354/05-005-00). However, corrective actions for this LER were specific to the event and would not have prevented the delayed operability assessment of the MSLRMs.

**SAFETY CONSEQUENCES**

The safety significance of this event is minimal.

Amendment 53 to the Technical Specification removed the automatic MSIV and Steam Line Drain isolation function of the MSLRMs in lieu of operator action. Amendment 143 added Technical Specification requirements for the trip and isolation of the Mechanical Vacuum Pumps on a MSLRM isolation signal. However, this function was not required as the vacuum pumps were not in service during the period of inoperability.

The only remaining automatic function associated with the MSLRM isolation signal is isolation of the 3/4" reactor sample line. This isolation is not credited in the safety analysis for release mitigation (Eng Calc H-1-CG-MDC-1795). Additionally, the Main Steam Line Background Radiation levels were lowering slowly due to post application response to Noble Metal Chemical Injection, and although the setpoint was not correspondingly lowered, the automatic sample line isolation function would have occurred on rising radiation levels.

Based on a review of this event and the definition of Safety System Functional Failure (SSFF) in Nuclear Energy Institute (NEI) 99-02, no SSFF occurred.

**CORRECTIVE ACTIONS**

1. The daily log was changed to correct the inaccurate acceptance criteria.
2. Instituted interim use of a third SRO to verify correct technical specification actions are taken for emergent LCO entries.
3. Issued Temporary Standing Order to ensure all licensed individuals were aware of the issue.

**COMMITMENTS**

This LER contains no commitments.