



LR-N05-0525

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LER 354/05-008-00
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NO. NPF-57
DOCKET NO. 50-354

This Licensee Event Report entitled, "Technical Specification Shutdown Due to 'B' Torus to Drywell Vacuum Breaker Not Closed," is being submitted pursuant to the requirement of 10CFR50.73(a)(2)(i)(A).

Sincerely,

A handwritten signature in black ink that reads "Michael J. Massaro".

Michael J. Massaro
Plant Manager - Hope Creek

Attachment

BJT

C Distribution
LER File 3.7

Handwritten initials "JER" in black ink, located in the bottom right corner of the page.

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 infocollect@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.

1. FACILITY NAME Hope Creek Generating Station	2. DOCKET NUMBER 05000354	3. PAGE 1 OF 3
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4. TITLE
Technical Specification Shutdown Due to 'B' Suppression Chamber to Drywell Vacuum Breaker Not Closed

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	28	2005	2005	- 008 -	00	10	27	2005	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
<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 checked="" 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 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 Brian Thomas, Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 856-339-2022
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	BF	VACB	G202	Y					

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

On August 28, 2005, at 0325 hours, the 'B' drywell to suppression chamber vacuum breaker {BF} indication was observed to cycle from closed to intermediate open. Attempts made to close the vacuum breaker from the control room and to establish a differential pressure between the drywell and suppression chamber were not successful. Technical Specification 3.6.4.1.b states, "with one or more suppression chamber-drywell vacuum breaker not closed, close the vacuum breaker within 2 hours; or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours." Due to the 'B' drywell to suppression chamber vacuum breaker not remaining closed, a plant shutdown was commenced at 1200 hours. At 1715 hours, Operational Condition 3 was entered (HOT SHUTDOWN). On August 29, 2005, at 0933 hours, Operational Condition 4 (COLD SHUTDOWN) was entered.

The cause of the 'B' drywell to suppression chamber vacuum breaker failure to remain closed is attributed to a loose locknut on the left hand side latch plate self-aligning screw. The 'B' vacuum breaker was repaired and inspection of the remaining suppression pool vacuum breakers was performed. Maintenance procedures will be revised and training will be provided to appropriate maintenance personnel.

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(A) "the completion of any nuclear plant shutdown required by the Technical Specifications."

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Hope Creek Generating Station	05000354	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2005	008	00	

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)

Suppression Chamber to Drywell Vacuum Breakers - {BF/-}*

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

IDENTIFICATION OF OCCURRENCE

Event Date: August 28, 2005

Discovery Date: August 28, 2005

CONDITIONS PRIOR TO OCCURRENCE

Hope Creek was in operational condition 1 with reactor power at approximately 100% prior to the shutdown. There was no other equipment out of service that contributed to this event.

DESCRIPTION OF OCCURRENCE

On August 28, 2005, at 0325 hours, the 'B' drywell to suppression chamber vacuum breaker {BF/VACB} indication was observed to cycle from closed to intermediate open. Attempts made to close the vacuum breaker from the control room and to establish a differential pressure between the drywell and suppression chamber were not successful. Technical Specification 3.6.4.1.b states, "with one or more suppression chamber-drywell vacuum breaker not closed, close the vacuum breaker within 2 hours; or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours." Due to the 'B' drywell to suppression chamber vacuum breaker not remaining closed, a plant shutdown was commenced at 1200 hours. At 1715 hours, Operational Condition 3 was entered (HOT SHUTDOWN). On August 29, 2005, at 0933 hours, Operational Condition 4 (COLD SHUTDOWN) was entered.

The 'B' drywell to suppression chamber vacuum breaker is a GPE CONTROLS model LD-240-447 vacuum breaker.

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(A) "the completion of any nuclear plant shutdown required by the Technical Specifications."

CAUSE OF OCCURRENCE

The cause of the 'B' drywell to suppression chamber vacuum breaker failure to remain closed is attributed to a loose locknut on the left hand side latch plate self-aligning screw. This allowed the vacuum breaker latch plate to displace towards the magnet assembly causing a misalignment between the left and right hand side magnet assemblies when the valve pallet neared the full closed position. As a result of this misalignment, the magnetic force was not sufficient to fully close the valve. The apparent cause of the misalignment was the result of historical inadequate maintenance work practices in that the latch plate installation and verification were not performed correctly.

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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Hope Creek Generating Station	05000354	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2005	008	00	

PREVIOUS OCCURRENCES

A review of past events at Hope Creek identified the following events associated with suppression chamber vacuum breakers: LERs 354/86-056, 354/92-006, and 354/95-031. LER 354/86-056 reported a manual plant shutdown due to a design deficiency with the reactor building to suppression chamber vacuum breaker tubing for the differential pressure transmitter. LER 354/92-006 reported a manual plant shutdown due to the suppression chamber being inoperable when the bypass leakage test for the vacuum breakers failed. The probable causes of the increased leakage through the vacuum breakers were attributed to seal alignment, seal aging and pallet alignment. The alignment pins for the hinge arm were found to be sheared causing the pallet mis-alignment. LER 354/95-031 reported a manual plant shutdown as the result of the inability to establish initial test conditions to perform surveillance requirement 4.6.2.1 due to bypass leakage of the suppression chamber vacuum breakers. The apparent cause was that one or more of the suppression chamber vacuum breakers experienced bypass leakage. Corrective actions for these LERs were specific to the events and would not have prevented the current event from occurring.

SAFETY CONSEQUENCES AND IMPLICATIONS

The misalignment of the 'B' suppression chamber to drywell vacuum breaker magnet assemblies impaired the ability of the vacuum breaker pallet to fully close without differential pressure between the suppression chamber and drywell compartments. An engineering review of the misalignment determined that the 'B' suppression chamber to drywell vacuum breaker would have closed for all licensing basis breaks for which pressure suppression is needed. Therefore, all eight suppression chamber to drywell vacuum breakers were available and capable of performing their design basis function. Based on the above, there was no impact to the health and safety of the public.

A review of this event determined that a Safety System Functional Failure (SSFF) has not occurred as defined in Nuclear Energy Institute (NEI) 99-02. The 'B' drywell to suppression pool vacuum breaker was capable of performing its design basis function.

CORRECTIVE ACTIONS

1. The 'B' suppression chamber to drywell vacuum breaker was inspected, repaired and retested satisfactory.
2. The other seven suppression chamber to drywell vacuum breakers were inspected. The locknuts and self aligning screws for the latch plates for the 'A', 'D', 'E', 'F', 'G', and 'H' vacuum breakers were found to be properly tightened. The locknuts and self aligning screws for the latch plate for the 'C' vacuum breaker were found to be loose. The fasteners for all eight vacuum breakers were properly tightened and the as-left opening setpoints were tested satisfactory.
3. The two reactor building to suppression pool vacuum breakers were visually inspected. One vacuum breaker was satisfactory and the other vacuum breaker was found to have loose alignment screws. Repairs were made to the vacuum breaker.
4. Maintenance procedures HC.MD-ST.GS-0001, "Torus to Drywell Relief Valve 18-Month Testing," and HC.MD-CM.GS-0002, "Drywell to Torus and Torus to Reactor Building Vacuum Relief Valve Overhaul," will be revised to include supervisory hold points for critical steps. In addition, procedure HC.MD-CM.GS-0002 will be revised to require validation and documentation for latch plate alignment and to ensure screws are properly secured.
5. Training will be provided to the appropriate maintenance personnel prior to the next refueling outage on the changes to procedures HC.MD-ST.GS-0001 and HC.MD-CM.GS-0002.

These actions are being tracked in accordance with PSEG's corrective action program.

COMMITMENTS

This LER contains no commitments.