



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

DEC 11 1995

LR-N95230

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 95-031-00

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

Sincerely,

M. E. Reddemann
General Manager -
Hope Creek Operations

RAR/tcp

Attachment
SORC Meeting 95-117
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The Energy People

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LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20655-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.

FACILITY NAME (1) HOPE CREEK	DOCKET NUMBER (2) 05000354	PAGE (3) 1 OF 4
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TITLE (4)
Technical Specification Required Shutdown due to the Inability to Perform Surveillance 4.6.2.1, Drywell to Suppression Chamber Pressure Decay Test

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	10	95	95	031	00	12	11	95		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	86	20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)(A)	50.73(a)(2)(viii)				
		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(c)(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)

NAME Larry Wagner, Assistant Maintenance Mgr - Mechanical	TELEPHONE NUMBER (Include Area Code) (609) 339-3671
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	BF	RV	G202	Y					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO		MONTH	DAY	YEAR

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

The 18 month Drywell to Suppression Chamber Pressure Decay Test was scheduled to be performed on 11/10/95. During preparation for the test it was determined that the initial test conditions could not be met. The Senior Nuclear Shift Supervisor then declared Primary Containment inoperable and entered Technical Specification 3.6.1.1 which requires restoration of Primary Containment within 1 hour or place the unit in HOT SHUTDOWN within the following 12 hours. A unit shutdown was commenced at 1419. An Unusual Event was declared at 1422 in accordance with the Event Classification Guide (ECG). A one hour report was made at 1513 as required by the ECG and 10CFR50.72(b)(1)(i)(A). The Unusual Event was terminated at 2008 on November 11, after the plant had achieved Cold Shutdown conditions. The apparent cause of the event is bypass leakage involving one or more of the Suppression Chamber Vacuum Breakers. Corrective Actions include determining which vacuum breakers contributed to the failure, repairing the vacuum breakers, completing the surveillance, and implementing a trending program. This LER is being reported in accordance with 10CFR50.73(a)(2)(i)(A).

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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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)
Containment Suppression Chamber to Drywell Vacuum Breakers, EIIS
Identifier: BF

IDENTIFICATION OF OCCURRENCE

Discovery Date: November 10, 1995
Report Date: December 11, 1995
Problem Report: 951110141

CONDITIONS PRIOR TO OCCURRENCE

Plant in Operational Condition 1 (Power Operations)
Reactor power at 86% of rated, Coastdown in progress

There were no systems, structures, or components that were inoperable at the start of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

The 18 month Drywell to Suppression Chamber Pressure Decay Test was scheduled to be performed on November 10, 1995. As part of the initial test setup, nitrogen makeup to the drywell was commenced at 1135. At 1344, nitrogen makeup was secured; and it was determined that the initial test conditions of a differential pressure of .8 psid, with the drywell pressure less than 1.5 psig could not be met. The Senior Nuclear Shift Supervisor (SNSS - SRO Licensed) then declared Primary Containment inoperable and entered Technical Specification 3.6.1.1 which requires restoration of Primary Containment within 1 hour or place the unit in HOT SHUTDOWN within the following 12 hours. A unit shutdown was commenced at 1419.

An Unusual Event was declared at 1422 in accordance with the Event Classification Guide due to loss of Primary Containment Integrity. A one hour report was made at 1513 in accordance with the requirements of the Event Classification Guide and 10CFR50.72(b)(1)(i)(A). The Unusual Event was terminated at 2008 on November 11, after the plant had achieved Cold Shutdown conditions.

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ANALYSIS OF OCCURRENCE

The Suppression Chamber to Drywell Vacuum Breakers are designed to allow non-condensable gases to return to the drywell after the blowdown phase of a Design Basis Accident (DBA). The vacuum breakers also act as a boundary between the Drywell and Suppression Chamber air space to ensure steam from the drywell will pass into the suppression chamber water volume and be condensed.

The vacuum breakers are tested on an 18 month frequency as part of the overall bypass leakage surveillance. The test establishes a differential pressure between the drywell and the suppression chamber and quantifies the leakage rate.

The test indicated that bypass leakage was present, but the actual path of the leakage could not be determined because the containment was inerted. Once the unit was shutdown and the containment purged, troubleshooting commenced on the vacuum breakers. A multi-discipline team of System Engineering, Maintenance personnel, and the vendor inspected the vacuum breakers. No obvious signs of failure on any individual vacuum breaker surfaced as a result of the inspections, but several vacuum breakers are possible sources of the problem.

Specifically, the 'G' vacuum breaker did not have an adequate "paper test." During a "paper test", a slip of paper is placed in the seating area and a qualitative judgment is made on seat integrity based on the resistance that is felt when the paper is pulled from the closed valve seat. Also, the 'F' vacuum breaker was reported to have its closed limit switch flickering during the test. This valve was inspected after it had been removed from the torus ring header. No obvious signs of failure were evident. Based on the inspections, the vendor recommended removing each valve and testing each one individually at 0.8 psid. A test rig is being fabricated to support this recommendation, and valve repairs will be based on the results of these tests.

PRIOR SIMILAR OCCURRENCES

There has been a previous occurrence of a failed Drywell to Suppression Chamber Pressure Decay Test (see LER 92-006). The corrective actions associated with that LER focused on correcting the failure and did not address trending vacuum breaker performance or increased maintenance. Therefore, they were not effective in preventing this occurrence.

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CAUSE OF THE OCCURRENCE

The apparent cause of this event is that one or more of the Suppression Chamber Vacuum Breakers experienced bypass leakage. The 'F' and 'G' vacuum breakers appear to have been the main contributors to this occurrence. The 'G' Suppression Chamber Vacuum Breaker failed the Drywell to Torus Vacuum Relief Valve Preventive Maintenance "paper test", which was performed on all 8 vacuum breakers.

Each of the vacuum breakers will be tested individually on a test stand prior to plant startup. The results of these tests will be used to determine what corrective maintenance is necessary and to develop a more comprehensive root cause.

SAFETY SIGNIFICANCE

Based on the failure to establish initial test conditions, it was determined that there would be some amount of bypass leakage during a Loss of Coolant Accident. An inspection of the vacuum breakers indicated that there were no gross failures. Based on this inspection, and the use of engineering judgment, it has been concluded that the leakage would not result in a challenge to containment since it would be within the capacity of the Suppression Chamber Spray System. During the last operating cycle, at least one loop of the Suppression Chamber Spray System was available and operable to condense any steam that may have entered the Suppression Chamber air space. Therefore, this event posed minimal safety significance.

CORRECTIVE ACTIONS

Each of the vacuum breakers will be tested individually on a test stand, any deficiencies that are discovered will be repaired, and the Drywell to Suppression Chamber Pressure Decay Test will be successfully completed prior to plant startup.

The testing methodology will be modified by January 15, 1996, to perform the Drywell to Suppression Chamber Pressure Decay Test in Cold Shutdown. This will permit more accurate trending of vacuum breaker performance.

A program to trend vacuum breaker performance, based on the new testing methodology, will be established by March 1, 1996.

A test schedule for subsequent tests will be submitted for NRC approval as described in Technical Specification 4.6.2.1.e by January 31, 1996.