



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

JAN 25 1996

LR-N96017

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

Dear Sir:

HOPE CREEK GENERATING STATION
DOCKET NO. 50-354
UNIT 1
LICENSEE EVENT REPORT 95-041-00

This Licensee Event Report entitled "Engineered Safety Feature Start of 'D' SSWS pump and 'B' CREF fan during performance of LOP/LOCA surveillance test" is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv).

Sincerely,

Mark E. Reddemann
General Manager -
Hope Creek Operations

Attachment LER
SORC Mtg. 96-010

00001A
9601290356 960125
PDR ADOCK 05000354
S PDR

The power is in your hands.

EXPIRES 04/30/98

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 20555-0001, AND TO
THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF
MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Hope Creek Generating Station

DOCKET NUMBER (2)

05000354

PAGE (3)

1 OF 5

TITLE (4)

Engineered Safety Feature Start of 'D' SSWS pump and 'B' CREF fan during
performance of LOP/LOCA surveillance 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
12	26	95	95	-- 041	-- 00	01	25	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		0	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		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)		x 50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(i)		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

L. Kepley

TELEPHONE NUMBER (Include Area Code)

(609)339-1106

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

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED
SUBMISSION
DATE (15)

MONTH

DAY

YEAR

YES
(If yes, complete EXPECTED SUBMISSION DATE).

NO x

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

On December 26, 1995, the Loss of Power coincident with a Loss of Coolant Accident (LOP/LOCA) surveillance test was in progress. At 2202 hours, the LOP/LOCA test began. The 'B' Control Room Emergency Filter (CREF) fan tripped on low flow. At 2209 hours, the 'D' Station Service Water System (SSWS) pump was removed from service. At 2323 hours, the LOCA logic signal was reset. Approximately 35 seconds later, the 'B' CREF fan started unexpectedly. Approximately 20 seconds later, the 'D' SSWS pump started unexpectedly. The cause of the occurrence is that the control room crew failed to evaluate the consequences of continued performance of the surveillance procedure after securing equipment involved with the testing activity in progress. Contributing causes were equipment malfunctions and procedural inadequacies. The LOP/LOCA surveillance test was subsequently performed satisfactorily on December 29, 1995, with no equipment malfunctions. Corrective actions consist of reinforcing expectations for response to unexpected conditions, procedure changes and investigation of the circumstances which caused equipment malfunctions. This occurrence is being reported under 10CFR50.73(a)(2)(iv) as any event or condition that resulted in an automatic actuation of an engineered safety feature.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Hope Creek Generating Station	05000354	95	-- 041	-- 00	2 OF 5

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)
Emergency Diesel Generators: KJ, EIIS Identifier: EK
Station Service Water System: EA, EIIS Identifier: BS
Control Room Emergency Filtration: GK, EIIS Identifier: VI

IDENTIFICATION OF OCCURRENCE

TITLE (4): Engineered Safety Feature Start of 'D' SSWS pump and 'B' CREF fan during performance of LOP/LOCA surveillance test

Event Occurrence: 12/26/95
Event Time: 2323 hours
Discovery Date: 12/26/95

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 5 (Refueling)
Reactor Power 0% of rated

DESCRIPTION OF OCCURRENCE

On December 26, 1995, surveillance test procedure, HC.OP-ST.KJ-0008(Q), 'Integrated Emergency Diesel Generator 1DG400 Test - 18 Months' was in progress. This procedure satisfies Technical Specification surveillance requirement 4.8.1.1.2.h.6, which requires simulating a loss of offsite power in conjunction with an Emergency Core Cooling System (ECCS) actuation test signal (i.e., simultaneous loss of offsite power and loss of coolant accident - LOP/LOCA test).

At 2202 hours, the LOP/LOCA test began. Emergency Diesel Generator 1DG400 started and the LOCA loads were sequentially started. The 'B' CREF fan subsequently tripped on low flow. At 2209 hours, the 'D' SSWS pump was removed from service due to a leaking backwash line.

At 2323 hours, in accordance with the surveillance procedure, the LOCA logic signal was reset. Approximately 35 seconds later, the 'B' CREF fan started. Approximately 20 seconds later, the 'D' SSWS pump started. Both of these actuations were unexpected by the control room crew at the time.

This occurrence is being reported under 10CFR50.73(a)(2)(iv) as any event or condition that resulted in an automatic actuation of an engineered safety feature.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Hope Creek Generating Station	05000354	95	-- 041 --	00	3 OF 5

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

ANALYSIS OF OCCURRENCE

The start of the 'D' SSWS pump and the 'B' CREF fan upon reset of the LOCA logic occurred per the design of the Emergency Loading Sequencer (ELS). Upon reset of the LOCA logic, the block inhibiting the LOP sequencer signal was removed (i.e., the loss of power signal remained sealed in). This permitting the timed output of the start signal. The LOP sequencer initiated the start signals to the appropriate loads at the times specified by the design. This included the 'D' SSWS pump and the 'B' CREF fan. The equipment already in service received a redundant start signal which was transparent to the operator. The starts of the 'B' CREF fan and the 'D' SSWS pump were valid starts but were not expected by the operators.

In accordance with the LOP/LOCA surveillance test procedure, following the initiation of the LOP/LOCA logic, the operator is expected to verify expected results listed in test procedures. During the December 26, 1995 LOP/LOCA test, all equipment identified in the procedure started; however, the 'B' CREF fan tripped and 'D' SSWS pump was shutdown. Contingencies for equipment problems were not covered by the procedure and were not anticipated by the operators. The test continued without thorough evaluation by the operators of the impact of these equipment problems on completion of the LOP/LOCA surveillance test.

A contributing cause to the occurrence was the inadequacy of the procedure. The 18 month LOP/LOCA diesel surveillance procedure failed to provide proper cautions relative to the ELS during the sequencer restoration and resetting process for the circumstances encountered.

Equipment Malfunctions

As part of implementation of a design change package (DCP), a temporary modification had been made to the service water backwash system to support installation of the DCP. The 'D' SSWS pump was removed from service during the LOP/LOCA test due to the temporary backwash line becoming unrestrained.

The 'B' CREF fan tripped on a low flow signal during the performance of the LOP/LOCA test. The LOP/LOCA surveillance test was subsequently performed satisfactorily on December 29, 1995, with no equipment trips or malfunctions. Based upon a review of past performance of both the 'A' and the 'B' CREF units, the units are currently considered operable. The cause of the 'B' CREF fan trip is currently under investigation.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Hope Creek Generating Station	05000354	95	-- 041	-- 00	4 OF 5

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

CAUSE OF OCCURRENCE

The cause of the occurrence is that the control room crew failed to thoroughly evaluate the continued performance of the test procedure following unexpected malfunctions in equipment involved with the testing activity. Contributing causes were equipment malfunctions and procedural inadequacies.

SAFETY SIGNIFICANCE

There was no safety significance to the unanticipated Engineered Safety Feature (ESF) actuation of the 'D' SSWS pump and the 'B' CREF fan. Equipment was subsequently secured in accordance with station procedures. The 'D' SSWS pump and 'B' CREF fan were inoperable prior to the event due to ongoing channel outages as part of the current refueling outage.

PREVIOUS OCCURRENCES

Within the last two years, there have been no reported occurrences of unanticipated ESF actuations during a LOP/LOCA test. However, there were two previously reported unanticipated ESF actuations resulting from inadequate procedures. LER 94-003-00 documents a Main Steam Isolation Valve closure from the Nuclear Steam Supply Shutoff System (NSSSS) due to procedural inadequacies. The corrective actions focused on procedures regarding ESF actuations from the NSSSS logic. LER 94-004-00 documents a loss of Shutdown Cooling due to NSSSS actuation on false high pressure signal. The corrective actions focused on revising Shutdown Cooling procedures. These events were reviewed against the current event and are deemed materially different. Therefore, previous corrective actions would not have been expected to prevent this occurrence.

CORRECTIVE ACTIONS

The LOP/LOCA surveillance test was subsequently performed satisfactorily on December 29, 1995, with no equipment trips or malfunctions.

Management's expectation regarding unexpected equipment problems that occur during planned evolutions will be reinforced with the operators. (Prior to start following current refueling outage)

The Integrated Emergency Diesel Generator surveillance test procedures will be revised to provide additional guidance indicating that any loads initiated by the LOP sequencer that tripped and/or were secured will restart when the LOCA sequencer is reset. (Prior to Refueling Outage 7)

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL NUMBER REVISION NUMBER	
Hope Creek Generating Station	05000354	95 -- 041 -- 00	5 OF 5

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

CORRECTIVE ACTIONS (cont'd)

The operation of the ELS with respect to this event, system design, and lessons learned will be reinforced with licensed operators and incorporated into the appropriate system lesson plan. (7/1/96)

Investigation into the cause of the 'B' CREF fan trip is continuing and will be completed prior to startup following the current Refueling Outage.

The investigation into the cause of the failure of the temporary modification is in its final stages and will be completed by 1/31/96.