

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Hope Creek Generating Station DOCKET NUMBER (2) 0 5 0 0 0 3 5 4 1 OF 0 3 PAGE (3)

TITLE (4) Isolation of RWCU While Placing Filter/Demineralizer (F/D) in "HOLD" Mode-Probable Design Deficiency

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 NAMES	DOCKET NUMBER(S)												
0	4	2	1	8	7	8	7	0	2	0	0	0	5	2	0	8	7	0	5	0	0	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)

OPERATING MODE (8) 1	20.402(b)	20.406(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 9 0	20.406(a)(1)(i)	50.38(e)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	50.38(e)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: A. M. Ervin, Lead Engineer - Technical TELEPHONE NUMBER: 610 9 31 31 91-151 21 31 9

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On April 21, 1987 at 1420 hours the plant was in OPERATIONAL CONDITION 1 (Power Operation) at 90% power - 990 MWe. While the "B" RWCU F/D was being placed in the "HOLD" Mode, the RWCU system isolated on high differential flow. Both RWCU pumps were returned to service with the "B" F/D isolated. The root cause of this occurrence is personnel error in that the Chemistry Technician failed to recognize that the automatic system did not completely fill and vent the F/D vessel. A design change is under evaluation which would aid the Chemistry Technician in placing a F/D in the "HOLD" mode.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (if more space is required, use additional NRC Form 388A's) (17)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)  
Reactor Water Cleanup System (RWCU) (EIIIS Designation: CE)

IDENTIFICATION OF OCCURRENCE

Isolation of RWCU While Placing Filter/Demineralizer (F/D) In "HOLD" Mode-Probable Design Deficiency.  
Event Date: 04/21/87  
Event Time: 1420  
This LER was initiated by Incident Report No. 87-061.

CONDITIONS PRIOR TO OCCURRENCE

Plant in Operational Condition 1 (Power Operation) at 90% Power - 990 MWe.

DESCRIPTION OF OCCURRENCE

On April 21, 1987 at 1420 hours, the shift Chemistry Technician was attempting to place the "B" RWCU F/D in the "HOLD" Mode when the Steam Leak Isolation Timer initiated on high differential flow. After 45 seconds, the relay timed out isolating the system inlet valve and tripping both the "A" and "B" RWCU pumps. The system was returned to service at 2143 hours with the "B" F/D isolated. The "A" F/D flow reached its rated value of 135 gpm at 2201 hours.

APPARENT CAUSE OF OCCURRENCE

The root cause of this occurrence is personnel error in that the Chemistry Technician failed to recognize that the automatic system did not completely fill and vent the F/D vessel. A contributing cause is insufficient procedure guidance on expected observations and proper utilization of the automatic cycle timer switch.

ANALYSIS OF OCCURRENCE

RWCU System flow transients have been encountered previously during F/D pressurization. The F/D is at atmospheric pressure when the backwash/precoat cycle is completed while the remainder of the system is pressurized at 250 psig to 1150 psig, depending on plant conditions. When the F/D is placed in the "HOLD" Mode, it has been observed that vessel pressurization occurs rapidly when the F/D inlet valve (HV 3906) begins to move off its seat. HV 3906 stroke speed is adjustable, however stroke speed has little effect on pressurization rate.

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

ANALYSIS OF OCCURRENCE CONT'D

While the operating procedure for the F/D requires assuring the filter is filled and vented prior to pressurization and the Chemistry Technician did perform this step, even small air pockets combined with the rapid pressurization can cause a flow transient.

There have been several previous occurrences involving RWCU isolations, however this is the first time that the isolation is believed to have been caused by air remaining in the F/D vessel after precoating.

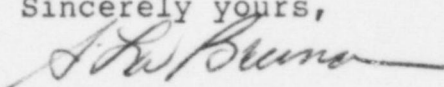
A design change is under evaluation which would aid the Chemistry Technician in placing a F/D in the "HOLD" Mode. Several other BWR's who have also experienced operational difficulties with the RWCU system are giving strong consideration to changes similar to that under evaluation for Hope Creek.

The loss of the RWCU System does not adversely affect safety-related systems. Reactor shutdown as a consequence of RWCU isolation would only be required if the reactor chemistry violated the provisions of the Technical Specifications 3.4.4. For these reasons, the health and safety of the public was not threatened by this occurrence. This LER is submitted accordance with 10CFR50.72(a)(2)(iv).

CORRECTIVE ACTIONS

Chemistry Supervisors will review this event with all technicians to ensure their awareness of the necessity to carefully vent the F/D prior to placing the unit in "HOLD" and caution them to be alert for any abnormal mechanical condition which could adversely affect system function.

The procedure will be revised for clarification of expected observations of the F/D vent flow glass and proper utilization of the automatic cycle timer switch.

Sincerely yours,  
  
S. LaBruna,  
General Manager -  
Hope Creek Operations

AME:tlb  
SORC Mtg. 87-059



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

Hope Creek Operations

May 20, 1987

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 87-020-00

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

Sincerely,

A handwritten signature in cursive script, appearing to read "S. LaBruna".

S. LaBruna  
General Manager -  
Hope Creek Operations

AME:tlb  
SORC Mtg. 87-059

Attachment

C Distribution