

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Hope Creek Generating Station DOCKET NUMBER (2) 050003541 OF 015 PAGE (3)

TITLE (4) Reactor Water Cleanup System Isolation When Pressurizing The "B" Filter/Demineralizer Due To F/D Inlet 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)
12	10	87	87	052	00	01	11	88			05000
											05000

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

OPERATING MODE (9) 1	20.402(b)	20.408(e)	<input checked="" type="checkbox"/>	90.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 11010	20.406(a)(1)(i)	90.38(e)(1)	<input type="checkbox"/>	90.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	90.38(e)(2)	<input type="checkbox"/>	90.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 308A)
	20.406(a)(1)(iii)	90.73(a)(2)(i)	<input type="checkbox"/>	90.73(a)(2)(vii)(A)	
	20.406(a)(1)(iv)	90.73(a)(2)(ii)	<input type="checkbox"/>	90.73(a)(2)(vii)(B)	
	20.406(a)(1)(v)	90.73(a)(2)(iii)	<input type="checkbox"/>	90.72(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12) R.B. Cowles, Lead Engineer - Technical TELEPHONE NUMBER 610193139-15121614

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14) YES (if yes, complete EXPECTED SUBMISSION DATE) X NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

On December 12, 1987 an isolation of the Reactor Water Cleanup System (RWCU) primary containment inboard isolation valve (HV-F001) occurred while pressurizing the "B" RWCU Filter/Demineralizer (F/D). The shift Chemistry Technician was attempting to place the "B" RWCU F/D in the "Hold" mode following precoating when the RWCU Steam Leak Isolation Timer initiated on high differential flow. After 45 seconds, the relay timed out, resulting in an automatic closure of HV-F001 and tripping both operating RWCU pumps. The isolation was reset and "A" and "B" RWCU pumps were restarted approximately 10 minutes after the isolation occurred. Investigations of previous similar RWCU isolations have determined that a design deficiency exists in the system which can lead to a high differential flow condition when pressurizing an F/D following precoating. Corrective actions include minor procedural changes and the scheduling of a previously identified design change for the 1988 refueling outage.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Hope Creek Generating Station	DOCKET NUMBER (2) 0 5 0 0 0 3 5 4 8 7	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 306A's) (17)

PLANT AND SYSTEM IDENTIFICATION

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

IDENTIFICATION OF OCCURRENCE

RWCU System Isolation When Pressurizing the "B"
Filter/Demineralizer (F/D) Due To F/D Inlet Design Deficiency

Event Date: 12/11/87
Event Time: 2247

This LER was initiated by Incident Report No. 87-203

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 1 (Power Operation), Reactor
Power 100%, Unit Load 1080 MWe.

DESCRIPTION OF OCCURRENCE

On December 10, 1987 at 2247 the RWCU system isolated following
timeout of the RWCU Steam Leak Isolation Timer (45 seconds
after initiation). The timer was initiated by a high
differential flow condition which occurred while attempting to
pressurize the "B" RWCU Filter/Demineralizer. Both operating
RWCU pumps tripped, and the RWCU primary containment inboard
isolation valve (HV-F001) automatically closed. After
ascertaining the cause of the isolation, the "A" and "B" RWCU
pumps were returned to service. The "B" F/D was placed in
service on 12/11/87 at 0035.

APPARENT CAUSE OF OCCURRENCE

A deficiency exists in the design of the F/D vessel inlet
piping and valves configuration such that the possibility of a
high differential flow initiation of the RWCU Steam Leak
Isolation timer exists every time a vessel is placed in the
"Hold" cycle during pressurization. If the high differential
flow condition does not clear within 45 seconds of timer
initiation, the RWCU system isolates.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Hope Creek Generating Station	DOCKET NUMBER (2) 0 5 0 0 0 3 5 4	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 7	- 0 5 2	- 0 0	0 3	OF 0 5

TEXT IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC FORM 388A (1/77)

ANALYSIS OF OCCURRENCE

Refer to Attachment 1 for a schematic of a typical F/D inlet piping arrangement. Following a backwash/precoat cycle, the F/D is placed in the "Hold" mode to pressurize the vessel. (After a backwash/precoat, the filter is at atmospheric pressure while the remainder of the RWCU system is between 250 PSIG and 1300 PSIG, depending on plant conditions.) When the "Hold" cycle is initiated, several actions occur. The automatic precoat step programmer, after cycling through various steps, automatically opens HV-3906 to pressurize its associated vessel.

Vessel pressurization occurs rapidly when HV-3906 beings moving off its seat. Though the stroke speed of HV-3906 is adjustable, stroke speed has little effect on pressurization rate. As such, a design modification has been initiated to provide a small bypass line, restricting orifice, and valve around the existing F/D inlet valves. This design will allow for controlled pressurization of the F/Ds prior to opening the inlet valves.

Hope Creek has encountered a variety of problems with operation of the RWCU system, these problems mirroring experiences at other facilities with similar systems. As a result, PSE&G is actively participating with other utilities and industry working groups to address the problems encountered with RWCU operation. The design change described above is a result of industry efforts in this direction. Incidents of a similar nature have occurred at Hope Creek in the past, and previous corrective actions have been primarily administrative in nature. Administrative changes (procedural, etc.), however, have not adequately compensated for the design deficiency noted in this report.

The isolation of the RWCU system does not adversely affect the continued safe operation of the station. Reactor shutdown as a consequence of an RWCU isolation would be required only if reactor water quality exceeded the limits established in Technical Specification 3.4.4.

CORRECTIVE ACTIONS

1. This incident will be discussed with all licensed operating personnel during weekly shift meetings so operators are aware that the possibility of an RWCU system isolation exists when pressurizing an F/D until the design change described in this report is implemented.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Hope Creek Generating Station	DOCKET NUMBER (2) 0 5 0 0 0 3 5 4	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	— 0 5 2	— 0 0	0 4	OF	0 5

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CORRECTIVE ACTIONS, CONT'D

2. This incident will also be reviewed with Chemistry Department personnel, stressing the need for informing the control room that an RWCU system isolation is possible when pressurizing an F/D.
3. Appropriate Chemistry Department procedures will be revised by 1/31/88 to include a requirement for informing the control room, prior to pressurizing an F/D, that an RWCU isolation is possible.
4. The previously described design change (DCP 4-HC-0057) is scheduled for completion during the first refueling outage. Following completion, this action should preclude future similar occurrences.

Sincerely,

S. LaBRUNA *[Signature]*

S. LaBruna
General Manager-
Hope Creek Operations

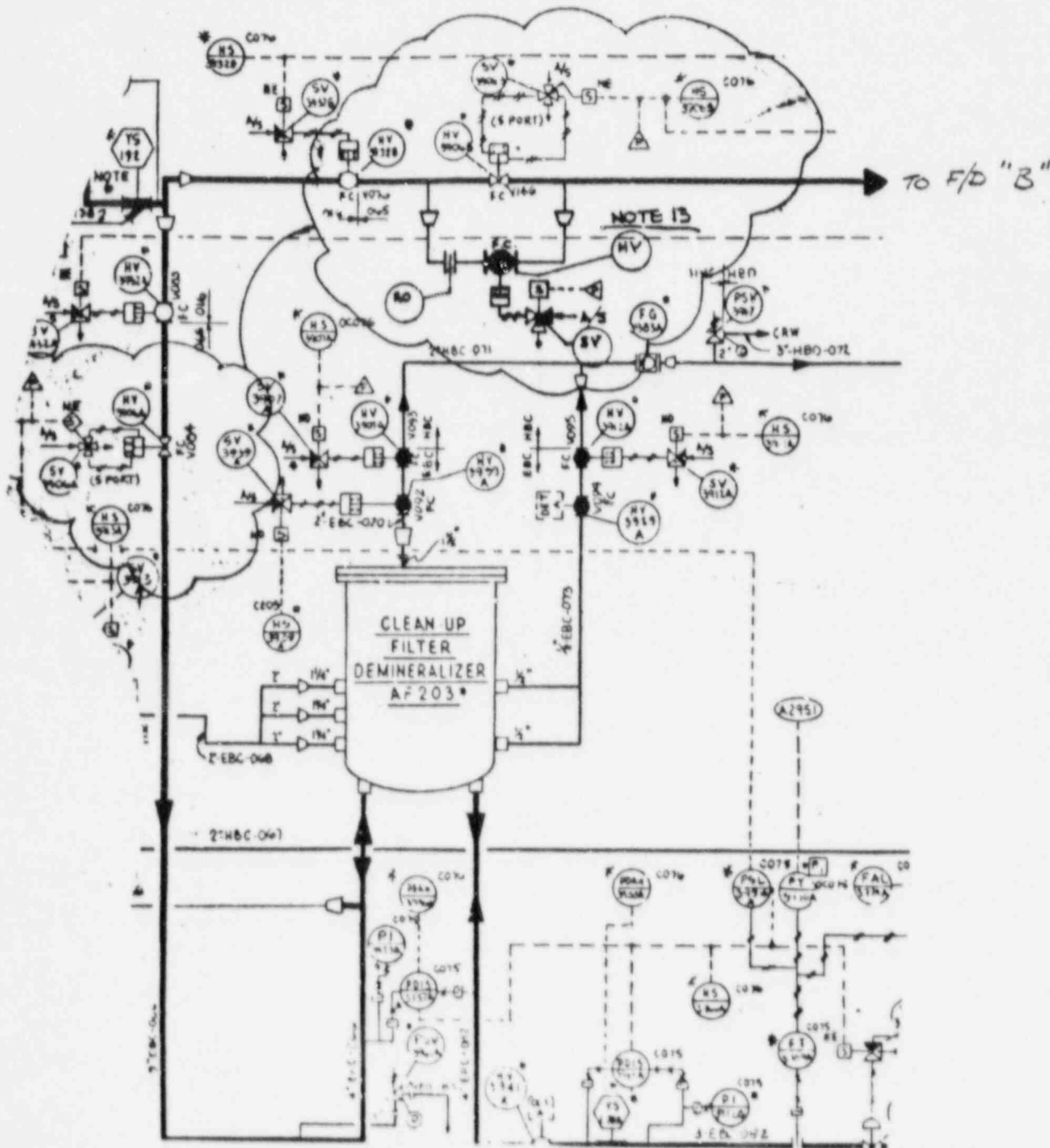
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FACILITY NAME (1) Hope Creek Generating Station	DOCKET NUMBER (2) 0500035487	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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ATTACHMENT 1

F/D Inlet Arrangement
(Design Change For F/D "B" Shown; F/D "A" Similar)





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

January 9, 1988

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 87-052-00

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

Sincerely,

S. LaBruna / Jan
S. LaBruna
General Manager -
Hope Creek Operations

RBC/

Attachment
SORC Mtg. 88-002

C Distribution

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