

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Hope Creek Generating Station DOCKET NUMBER (2) 05000354 PAGE 1 OF 4

TITLE (4) RWCU Isolation on High Differential Flow - Design and Procedure Deficiencies

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

OPERATING MODE (9) 1	20.403(b)	20.403(a)	X	80.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 100	20.403(a)(1)(B)	80.73(a)(1)		80.73(a)(2)(v)	73.71(a)
	20.403(a)(1)(B)	80.73(a)(2)		80.73(a)(2)(vi)	OTHER (Specify in Abstract Below and in Text NRC Form 365A)
	20.403(a)(1)(B)	80.73(a)(2)(ii)		80.73(a)(2)(vii)(A)	
	20.403(a)(1)(B)	80.73(a)(2)(ii)		80.73(a)(2)(vii)(B)	
	20.403(a)(1)(B)	80.73(a)(2)(iii)		80.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME A. M. ERVIN - Lead Engineer Technical TELEPHONE NUMBER 609 339-5239

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 via complete EXPECTED SUBMISSION DATE) X NO

EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

On May 11, 1988 at 1325 hours, the Plant was in OPERATIONAL CONDITION 1 (Power Operation) at 100% power generating 1086 MWe. The Reactor Water Cleanup (RWCU) loop isolated on a high flow differential ESF signal during pressurization of the "B" RWCU Filter/Demineralizer (F/D) in preparation for placing it in service. The control room operators tripped the RWCU pumps before the isolation signal closed the RWCU pump suction valve. Following the isolation, the RWCU was restored to normal operation. The causes of this and other similar RWCU isolations were air or void in the RWCU F/D vessel and/or piping, procedural inadequacies and a design deficiency in the sizing of the RWCU F/D bypass line orifice.

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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) (EIIS Designator:CE)

IDENTIFICATION OF OCCURRENCE

RWCU Isolation on High Differential Flow - Design and Procedure Deficiencies

Event Date: May 11, 1988
Event Time 1325 Hours
This LER was initiated by Incident Report No. 88-090

CONDITIONS PRIOR TO OCCURRENCE

The Plant was in OPERATIONAL CONDITION 1 (Power Operation) at 100% power generating 1086 MWe.

DESCRIPTION OF OCCURRENCE

On May 11, 1988 at 1325 hours, the RWCU loop isolated on a high flow differential ESF signal during pressurization of the "B" RWCU Filter/Demineralizer (F/D) in preparation for placing it in service. The Control room operators tripped the RWCU pumps before the isolation signal closed the RWCU pump suction valve. Following the isolation, the RWCU was restored to normal operation.

APPARENT CAUSE OF OCCURRENCE

The causes of this and other similar RWCU isolations were:

Air or void in the RWCU F/D vessel and/or piping which is not removed by normal system evolutions.

Procedural inadequacies in that constant communications between field and control room were not required during F/D vessel pressurization so that timely corrective action could be taken whenever the RWCU Steam Leak Isolation Timer is initiated.

A design deficiency in the sizing of the bypass line orifice.

ANALYSIS OF OCCURRENCE

Previous RWCU isolations on differential flow had been attributed to air or void in the F/D vessel. A procedure change was made which required that the finish fill flow into the F/D

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TEXT (If more space is required, use additional NRC Form 302A's) (17)

ANALYSIS OF OCCURRENCE (CONTINUED)

vessel be observed at the sight glass to ensure that the flow was not terminated before the vessel was purged of all air bubbles. At the time of this event, the Chemistry supervisor who observed the filling of the "B" F/D vessel prior to beginning the precoat operation reported that the water stream leaving the vessel contained no air bubbles. The F/D precoat operation proceeded normally until the loop isolation occurred.

A design change to prevent RWCU isolation during F/D vessel pressurization was partially installed during the first refueling outage. This design change installed bypass lines around the RWCU isolation valves and added a restricting orifice to reduce flow through the bypass lines.

At present, the rate of pressurization of the RWCU F/D vessel is subject to operator uncertainties as to the required rate and degree of opening of the 1" bypass pressurization valve even though the bypass line is orificed to 3/8".

PREVIOUS OCCURRENCES

Similar occurrences were reported in LER 87-020 (April 21, 1987) and LER 87-028 (June 29 and July 1, 1987). In each of these events a RWCU isolation timer initiated on high differential flow.

SAFETY ASSESSMENT

Isolation of RWCU does not adversely affect safety-related systems. Reactor shutdown as a consequence of RWCU isolation would only be required if the reactor coolant chemistry violated the provisions of Technical Specification 3.4.4. For these reasons, the health and safety of the public was not compromised by this event.

REPORTABILITY

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

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

CORRECTIVE ACTIONS

1. The RWCU system operation procedure has been revised to require that the control room and the Chemistry personnel performing a F/D vessel pressurization be in constant communication so that timely corrective action could be taken whenever the RWCU Steam Leak Isolation Timer is initiated.

2. Performance of an engineering analysis and tests to determine the following:

 Identify the volume of trapped air or void in the F/D vessel

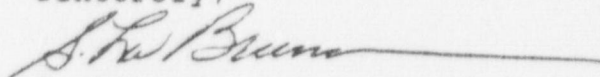
 Verify the valving sequence during F/D vessel purge

 Determine if there are F/D vessel boundary leakages.

3. Make an engineering determination of the optimum size orifice to restrict the flow to a value which will accomplish the vessel pressurization without initiating the RWCU Steam Leak Isolation Timer.

4. Verify the calibration of the flow measurement instrumentation which provides inputs to the RWCU Steam Leak Isolation Timer.

Sincerely,



S. LaBruna
General Manager -
Hope Creek Operations

AME:

SORC Mtg. 88-084



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

June 10, 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 88-014-00

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', is written over the typed name.

S. LaBruna
General Manager -
Hope Creek Operations

AME:

Attachment
SORC Mtg. 88-084

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