

## 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  
(7-6 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 4

TITLE (4)

Operation in a TS Prohibited Condition Due to Failure to Perform Monthly Flowpath Verification  
Surveillance Checks of Residual Heat Removal System Crosstie Valves.

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
04	07	94	97	-- 005	-- 00	04	25	97	FACILITY NAME	DOCKET NUMBER
										05000
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)										
OPERATING MODE (9)		1	20.2201(b)			20.2203(a)(2)(v)			X 50.73(a)(2)(i)(B)	50.73(a)(2)(i-iii)
POWER LEVEL (10)		100	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(a)(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

John W. Karrick, Hope Creek LER Coordinator

TELEPHONE NUMBER (Include Area Code)

(609) 339-5298

## 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)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

As a result of recent reviews of a safety evaluation for an April 1994 Residual Heat Removal (RHR) system design change, a Technical Specification (TS) surveillance test deficiency was identified. The design change added a crosstie line with two valves installed between the discharge of the "A" and "C" RHR pumps. Neither of the two valves were required to be maintained locked closed, therefore, the monthly Emergency Core Cooling Systems (ECCS) flow path verification requirements of TS 4.5.1.a.1.b should have been made applicable, but were not. This resulted in operation in a TS prohibited condition and is being reported pursuant to 10CFR50.73(a)(2)(i)(B). This condition was corrected on December 22, 1995, when a normally closed crosstie valve was locked closed.

The cause of this deficiency was the failure to identify the needed surveillance procedure revision during the 10CFR50.59 safety evaluation and the design change review process. Personnel errors and review process failures led to this deficiency. Corrective actions include a separate evaluation of 10CFR50.59 and engineering performance issues, previous enhancements to the safety evaluation and design change processes, a design basis review of ECCS systems associated with 10CFR50.54(f), disciplinary action, and a re-assessment of the safety evaluation conclusions. There were no safety consequences associated with this deficiency.

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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)  
Residual Heat Removal System (RHR) - EIIS Identifier {BO}

IDENTIFICATION OF OCCURRENCE

Discovery date: March 25, 1997  
Problem Report: 970225328

CONDITIONS PRIOR TO OCCURRENCE

The plant was in OPERATIONAL CONDITION 1 (POWER OPERATION) at 100% of rated thermal power at the time of discovery. No other structures, systems, or components were inoperable at the time of discovery that contributed to the event.

DESCRIPTION OF OCCURRENCE

During Refuel Outage (RFO) 5 (March-April 1994), a plant design change (DCP 4EC-3411) was installed which added a crosstie line between the "A" and "C" RHR pumps' discharge. Two valves, one manually operated (1BC-V570) and the other motor operated but electrically disconnected (1BC-V571), were installed in the crosstie line to maintain independence between the Low Pressure Coolant Injection (LPCI) subsystems. The purpose of this modification was to provide for an alternate means of decay heat removal during reactor shutdown conditions.

Hope Creek Technical Specification (TS) 4.5.1.a.1.b requires the Emergency Core Cooling systems to be demonstrated operable at least once per 31 days, by verifying that each valve, manual, power operated or automatic, in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position. Reviews of the safety evaluation performed for DCP 4EC-3411 as a result of inquiries from the NRC Senior Resident Inspector, has revealed that from April 7, 1994, to December 22, 1995, neither of these crosstie valves met the criteria for exclusion from the surveillance requirements. Therefore, these valves should have been included in HC.OP-ST.BC-0001(Q); the surveillance procedure designed to fulfill the TS 4.5.1.a.1.b requirements. As a result, operation in a TS prohibited condition existed and is being reported pursuant to 10CFR50.73(a)(2)(i)(B).

The safety evaluation for the "D" to "B" RHR crosstie modification identified the valve position discrepancy. On December 22, 1995, 1BC-V571 was locked closed as part of the design change package closure; restoring compliance with TS 4.5.1.a.1.b. There was no Corrective Action Program document written at that time to report the discrepancy. As a result, no reportability review was performed and no LER was issued at that time.

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APPARENT CAUSE OF OCCURRENCE

The 10CFR50.59 safety evaluations performed in support of DCP 4EC-3411 for the A/C crosstie did not list TS 3.5.1 or 4.5.1 as having been reviewed for potential changes. The failure to properly identify all potential TS impacted by the design change contributed to missing this surveillance requirement. This failure is attributed to personnel errors and inadequate reviews of the 10CFR50.59 safety evaluation.

The design change process includes steps to identify the procedures impacted by the modification. The procedure for the design change process used at the time DCP 4EC-3411 was issued required the system engineer to identify the procedures affected by the design change. This review also failed to identify the need to add the crosstie valve(s) to the surveillance test and is considered a personnel error. Improvements to the design change process since that time include an Operations department review for procedural impact.

ASSESSMENT OF SAFETY CONSEQUENCES

During the period of time that the surveillance checks were not performed for the A/C crosstie, the LPCI flow paths were not compromised. Surveillance testing pursuant to TS 4.5.1.b.2, monthly LPCI full flow In-Service Tests, confirmed properly positioned crosstie valves. In addition, since installation, the A/C crosstie flowpath, an abnormal lineup, has not been used. Administrative controls were in place, which require two operators to verify the valve positions.

There is a difference between this modification and the design of other BWRs in that Hope Creek's crosstie valves' motor operators are not electrically connected. This reduces the probability of inadvertent mispositioning during power operation.

There were no actual safety consequences associated with this event. There was no impact on public health and safety.

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PREVIOUS OCCURRENCES

A review of previous LERs at Hope Creek revealed that LERs 96-019, 96-021, and 95-033-00 through 95-033-14 (TSSIP LERs) involved inadequate surveillance testing due to procedural deficiencies. The corrective actions from these events could not be expected to have prevented this event.

Corrective actions from a March 25, 1996, TSSIP identified deficiency with verification of primary containment penetrations (LER 95-033-04), did result in verifying all four RHR crosstie valves closed and adding them to the monthly surveillance procedure pursuant to TS 4.6.1.1.b. This activity met the intent of the ECCS flowpath verification.

CORRECTIVE ACTIONS

1. On December 22, 1995, 1BC-V571 was locked closed, restoring compliance with TS 4.5.1.a.1.b.
2. Since the time the 10CFR50.59 evaluations were performed for this modification, the 10CFR50.59 training and qualification requirements have been increased. Additional enhancements in the 50.59 process have also occurred and will continue to occur as prescribed by the Corrective Action Program. No additional actions are deemed necessary at this time.
3. A separate evaluation of 10CFR50.59 and Engineering performance issues has been initiated. The evaluation will be completed by May 22, 1997.
4. A review of other ECCS related design bases will be performed as part of Attachment 2 to the February 11, 1997, Hope Creek response pursuant to 10CFR50.54(f). This review will detect deficiencies between plant configuration and design bases caused by design changes as well as other sources.
5. PSEG has evaluated performance deficiencies for personnel involved and implemented disciplinary actions as appropriate.
6. The safety evaluations for the crosstie modifications will be re-assessed to validate the conclusions. This action will be completed by May 16, 1997.