



Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038
Hope Creek Operations

JAN 03 1996

LR-N95240

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 95-037-00

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

Sincerely,

M. E. Reddemann
General Manager -
Hope Creek Operations

RAR/tcp

Attachment
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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)
Both Loops of Safety Auxiliaries Cooling System (SACS) Inoperable

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	04	95	95	037	00	01	03	96		05000
										05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
5	0	20.2201(b)	20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)(B)	50.73(a)(2)(viii)	20.2203(a)(1)	20.2203(a)(3)(i)	<input checked="" type="checkbox"/>	50.73(a)(2)(ii)(B)	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)		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)	Specify in Abstract below or in NRC Form 366A

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
D. La Mastra, Manager - Hope Creek Nuclear Design Engineering	(609) 339-1793

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)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO			XX	XX	XX

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

On 12/4/95, a four hour report was made to the NRC in accordance with 10CFR50.72(b)(2)(i). This LER is being submitted in accordance with 10CFR50.73(a)(2)(i)(B) and 10CFR50.73(a)(2)(ii)(B). On 12/9/95, a determination was made that the documented piping stress analysis for the Safety Auxiliaries Cooling System (SACS) could not support operability at temperatures below 65°F. This determination was documented on a Problem Report and 'A' SACS was declared inoperable, although it remained in service. Since 'B' SACS was already inoperable due to scheduled maintenance, core alterations were suspended. The cause of the occurrence was the ineffective and untimely implementation of the previous Corrective Action Program regarding the design description of SACS during winter operations. This was compounded by a failure to ensure consistency between the UFSAR and plant operating procedures, a lack of follow-up to ensure that concerns were responded to appropriately, and inadequate management oversight. Based on further Engineering Evaluations, SACS was restored to operability. The safety significance associated with this LER is minimal. 'A' SACS remained in operation and performed its function during the time it was considered to be inoperable. Corrective actions include providing engineering analysis to change the minimum temperature requirement, resolving the open discrepancies, revisions to procedures and design basis documents, and the implementation of a new Corrective Action Program.

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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)
Safety Auxiliaries Cooling System, EIIS Identifier: CC

IDENTIFICATION OF OCCURRENCE

Discovery Date: December 4, 1995
Report Date: January 3, 1996
Problem Report: 951204119

CONDITIONS PRIOR TO OCCURRENCE

Plant in Operational Condition 5 (REFUELING)

'B' Safety Auxiliaries Cooling System was out of service for scheduled maintenance. There were no other systems, structures, or components that were known to be inoperable at the start of the event that contributed to the event.

DESCRIPTION OF OCCURRENCE

On November 6, 1995, Problem Report (PR) 951106181 was initiated because the 'A' Safety Auxiliaries Cooling System (SACS) Heat Exchanger outlet temperature had dropped below the UFSAR described design limit of 65°F. At that time, Hope Creek was in Operational Condition 1 (Power Operations), with the unit at approximately 86% power, in preparation for the sixth refueling outage. The system manager provided information to support an operability determination, recommending that SACS be considered to be degraded, but operable. The recommendation was based on the resolution of a similar occurrence that had been dispositioned in 1991, and engineering judgment based on the system manager's knowledge that the Residual Heat Removal components have been analyzed to operate at temperatures as low as 40°F and his belief that piping stresses would not be an issue.

As a result of Problem Report (PR) 951106181, the Nuclear Design Engineering (NDE) organization initiated a review of the minimum operating temperature requirements for SACS. On December 4, 1995, a determination was made that the documented piping stress analysis for SACS could not support operability at temperatures below 65°F. 'A' SACS was then declared inoperable, although it remained in service.

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DESCRIPTION OF OCCURRENCE

Since 'B' SACS was already inoperable for scheduled maintenance, core alterations were suspended and a four hour report was made to the NRC in accordance with the requirements of 10CFR50.72(b)(2)(i), any event, found while the reactor is shut down, that had it been found while the reactor was in operation, would have resulted in the nuclear power plant, including its principal safety barriers, being seriously degraded or being in an unanalyzed condition that significantly compromises plant safety.

On December 9, 1995, NDE completed a more detailed review and evaluation of piping stress calculations and SACS components and concluded that SACS can be operated at temperatures as low as 32°F without jeopardizing system integrity. The review was documented in letter NE-95-2133 and provided to the Senior Nuclear Shift Supervisor. The 'A' SACS loop was declared operable, but in nonconformance with its design basis documents.

ANALYSIS OF OCCURRENCE

SACS consists of two independent loops that provide closed loop cooling to safety-related equipment that is required for maintenance of safe shutdown conditions. The system is designed with sufficient heat removal capability to bring the reactor to a cold shutdown condition.

The issue of low SACS temperature was initially identified during Hope Creek's pre-operational startup testing in 1986. On January 7, 1986, and on January 14, 1986, Startup Deviation Reports (SDR) were created to determine the lowest allowable temperature limits for both SACS and the equipment that it supplies. The response indicated that while SACS water temperature should not go below 65°F, running as low as 37°F would not cause any structural damage. No supporting analysis was provided.

On November 26, 1986, the Station Operations Review Committee (SORC) assigned an action item to resolve issues related to UFSAR Table 9.2-3, Safety and Turbine Auxiliaries Equipment Design Parameters. This table includes information such as the SACS Heat Exchanger design water outlet temperature. The action item was assigned to NDE and remains open.

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ANALYSIS OF OCCURRENCE

On April 23, 1987, an Operations log was revised to state that the minimum SACS temperature was 37°F. The justification for this change was the SDR response that indicated that operating at 37°F would not cause adverse structural or metallurgical impact to any SACS supported equipment. However, the UFSAR still stated 65°F as the minimum SACS Heat Exchanger outlet temperature.

On December 23, 1987, and on February 20, 1988, Engineering Work Requests (EWRs) were initiated by system engineering that requested NDE to evaluate both the discrepancy between the UFSAR and the existing plant condition, and what the impact of operating below the design temperature would be to the plant. Neither of these EWRs have been satisfactorily closed.

In October 1990, during a Safety System Functional Review conducted by Onsite Safety Review, an action request was initiated that questioned the impact of operating SACS below 65°F. This action request was responded to in November 1991. The response indicated that no equipment should be considered to be inoperable. This response was used to justify the operability determination that was provided to Operations on November 6, 1995.

This LER describes a breakdown in the previous Corrective Action Program in that it has been determined that none of the above action items have been responded to appropriately. Additionally, neither the plant staff nor any oversight organization performed an effective follow up to ensure that the action items were closed out appropriately.

PRIOR SIMILAR OCCURRENCES

SACS was operated outside of the UFSAR and design requirements on numerous occasions since plant start-up. This is the first time that it was reported as an LER.

CAUSE OF THE OCCURRENCE

The cause of the occurrence was the ineffective and untimely implementation of the Corrective Action Program regarding the design of SACS during winter operations. This was compounded by a failure to ensure consistency between the UFSAR and plant operating procedures, a lack of follow-up to ensure that concerns were responded to appropriately, and inadequate management oversight.

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SAFETY SIGNIFICANCE

The safety significance associated with this LER is minimal. An engineering analysis has been completed that indicates that SACS is capable of performing its intended safety function at temperatures as low as 32°F. 'A' SACS remained in operation and performed its function during the time it was considered to be inoperable.

CORRECTIVE ACTIONS

A new Corrective Action Program has been implemented and provides an improved mechanism for identifying specific responsibilities related to Conditions Adverse to Quality. This Corrective Action Program increases the focus of the appropriate personnel toward the resolution of Conditions Adverse to Quality and provides increased emphasis on accountability regarding timely evaluations and corrective actions.

Engineering calculations have been developed that provide reasonable assurance that operating SACS at temperatures as low as 32°F is acceptable.

The previously assigned action items related to discrepancies between SACS operation and design bases will be resolved prior to the end of the current refueling outage, including a determination of the appropriate minimum and maximum design temperatures. The resolutions to these discrepancies will be approved for incorporation into the UFSAR and design basis documents prior to the end of the current refueling outage.

The Operations procedure will be revised to reflect the revised minimum and maximum temperatures prior to the end of the current refueling outage.

Open EWRs and SORC action items will be reviewed prior to the end of the current refueling outage to determine if there are any other issues that are required to be addressed prior to restart.

The SORC will periodically review the status of the action items that they have assigned.

NDE will periodically review the status of open EWRs.

The system operating and surveillance procedures for six risk significant systems will be reviewed to validate that the key design basis operating limits are incorporated. This validation will be completed by December 31, 1996. The results of this validation will be reviewed to determine if the scope of the review should be expanded.