



CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT

362 INJUN HOLLOW ROAD • EAST HAMPTON, CT 06424-3099

February 11, 1997


Re: 10CFR50.73(a)(2)(ii)
B16245

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Reference: Facility Operating License No. DPR-61
Docket No. 50-213
Reportable Occurrence LER 50-213/97-001-00

This letter forwards the Licensee Event Report 97-001-00, required to be submitted, pursuant to the requirements of the Haddam Neck Plant's Technical Specifications.

Very truly yours,


J. J. LaPlatney
Unit Director

JJL/eda

Attachment: LER 50-213/97-001-00

cc: Mr. H. J. Miller
Regional Administrator, Region I
475 Allendale Road
King of Prussia, PA 19406

Mr. William J. Raymond
Sr. Resident Inspector
Haddam Neck

250052

9702250307 970211
PDR ADOCK 05000213
S PDR

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)

Haddam Neck

DOCKET NUMBER (2)

05000 - 213

PAGE (3)

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TITLE (4)

River Temperature Below UFSAR Analyzed Condition

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
01	14	97	97	-- 001	-- 00	02	11	97		05000
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		X 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

D. Sabeau, Engineering Design

TELEPHONE NUMBER (Include Area Code)

(860) 267-2556

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)

On January 14, 1997, at approximately 1530 hours, with the plant in a defueled mode, a reportability evaluation determined that the plant had been in a condition outside of the analyzed service water supply temperature range. Both the Haddam Neck Updated Final Safety Analysis (UFSAR) and the service water supply piping stress analysis reference 35 degrees F as the minimum service water supply temperature, however, historically, there have been times when the average supply (river water) temperature was below 35 degrees F. This condition was previously identified in February 1996 (LER 96-002-00). Although actions were initiated to update the UFSAR, the changes were never made resulting in a recurrence of the same condition. The cause was a program deficiency in that the design basis calculations were not updated in a timely manner. It was determined that there are no limiting effects associated with overcooling any components and that the lower supply temperature had no effect on existing emergency core cooling calculations or on the structural integrity of the service water system. Corrective action consists of revising the UFSAR and the design basis calculations to reflect the normal operating temperatures of the service water system. In addition there is a formal, ongoing effort to identify and correct UFSAR inaccuracies.

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

BACKGROUND INFORMATION

The service water system (EIIIS Code: BI) provides cooling water to both the primary and secondary systems during normal at power operation and plant cooldowns. It also provides cooling water to vital components during emergency conditions. The plant's four service water pumps comprise two service water headers. The north service water header includes the 'A' and 'B' service water pumps and the south service water header includes the 'C' and 'D' pumps. Technical Specification 3.7.3 requires two service water headers to be operable in Modes 1, 2, 3, and 4. The source of water for the service water system is the Connecticut River which is also the Haddam Neck Plant's ultimate heat sink.

The Haddam Neck plant is currently in a defueled condition and has notified the NRC of its decision to permanently cease power operation and has permanently removed fuel from the reactor vessel. Therefore all reference to operation in Modes 1, 2, 3, and 4 is no longer applicable to the service water system. In the defueled state service water provides cooling to the spent fuel pool heat exchangers, the emergency diesel generators and to a small number of secondary plant components.

The system description for the service water system in the Updated Final Safety Analysis Report (UFSAR), section 9.2.1.2 states: "The inlet operating temperature extremes of the service water system are 90 degrees F maximum and 35 degrees F minimum...". Technical Specification Limiting Condition for Operation 3.7.12 states: "The ultimate heat sink shall be OPERABLE with an average circulating water inlet temperature of less than or equal to 90 degrees F in Modes 1, 2, 3 and 4..". No limitations are imposed for minimum water temperatures.

EVENT DESCRIPTION

On January 14, 1997, at approximately 1530 hours, with the plant in the defueled mode, a reportability evaluation determined that the plant had been in a condition outside of the analyzed service water supply temperature range.

Both the Haddam Neck Updated Final Safety Analysis Report (UFSAR) and the service water supply piping stress analysis reference 35 degrees F as the minimum service water supply temperature, however, historically, there have been times when the average supply (river water) temperature was below 35 degrees F.

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

CAUSE OF THE EVENT

This condition was previously identified in February 1996 (LER 96-002-00) when a review of the UFSAR and piping stress analysis identified a discrepancy between the documented minimum service water inlet operating temperature and actual winter operating conditions experienced at the Haddam Neck plant.

Although actions were initiated to update the UFSAR, the changes were never made resulting in a recurrence of the same condition. The cause was a program deficiency in that the design basis calculations were not updated in a timely manner.

SAFETY ASSESSMENT

This event is reportable under 10CFR50.73(a)(2)(ii)(B) since it resulted in a condition that was outside the design basis of the plant.

A qualitative evaluation was performed for lower service water (SW) temperatures, conservatively assumed to be as low as 28 degrees F which is the freezing point of sea water. It was concluded that there are no limiting effects associated with overcooling any components.

An evaluation was made of the effect of the lower SW supply temperature on the structural integrity of the SW piping, pipe supports, valves and equipment. It was found that the material allowable values will not change appreciably as a result of lowering the temperature 7 degrees to 28 degrees F. This temperature change will have an insignificant impact on the thermal stress levels of the piping system and support loads since the change in the coefficient of expansion and the modulus of elasticity of the piping materials is insignificant. SW flaw evaluations will not be affected significantly since the thermal piping loads will remain essentially the same. In addition, flexible supports of the SW system allow for minor changes in piping displacement. Since piping loads and displacements do not change significantly the resultant impact on nozzle loads is considered negligible. The structural integrity of valve bodies, pumps, heat exchangers, strainers, etc. is bounded by the piping acceptability. From these evaluations it was concluded that the system structural integrity is not degraded by operating at the lower temperature.

In accordance with normal design practices, all of the heat exchangers receiving cooling from the SW system were specified using maximum SW supply temperature with minimum temperature not being a critical design temperature. Minimizing SW supply temperature will have the effect of improving heat exchanger performance.

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

Based on the above evaluations, and the fact that the plant was in a defueled condition during the period of low river water temperatures, it was concluded that the safety significance of this event is low.

CORRECTIVE ACTION

Corrective action consists of developing a new tracking system which is specifically designed to identify these types of commitments. In addition, the remaining backlog of proposed changes to the UFSAR is being screened to ensure there are no other similar issues.

The UFSAR and design basis calculations will be revised to reflect the normal operating temperatures of the service water system. Also, there is a formal, ongoing effort to identify and correct UFSAR inaccuracies.

ADDITIONAL INFORMATION

Commitments

The following are commitments made within this report. All other statements are for information only:

- B16245-1 A new tracking system will be developed which is specifically designed to identify these types of commitments.
- B16245-2 The remaining backlog of proposed changes to the UFSAR is being screened to ensure there are no other similar issues.
- B16245-3 The UFSAR and design basis calculations will be revised to reflect the normal operating temperatures of the service water system.

PREVIOUS SIMILAR EVENTS

LER 96-002-00, "River Temperature Below UFSAR Analyzed Condition".