CONNECTICUT YANKEE ATOMIC POWER COMPANY

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

February 21, 1997
Re: 10CFR50.73(a)(2)(i)
B16231

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 50-213/96-025-01

This letter forwards the Licensee Event Report 96-025-01, required to be submitted, pursuant to the requirements of the Haddam Neck Plant's Technical Specifications.

Very truly yours,

J. J. LaPlatney
Unit Director

Attachment: LER 50-213/96-025-01

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

1/1

IE22

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)

Spent Fuel Building Air Filtration System Failed Air Flow Test

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
										05000
09	27	96	96	-025	-01	02	21	97	FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9)	5
POWER LEVEL (10)	000

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

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	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	TELEPHONE NUMBER (Include Area Code)
Diane Carnesi, Technical Support	(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)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

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

On September 27, 1996, at 1617 hours, with the plant in Mode 5 (cold shutdown) for the cycle 19 refueling outage, while performing air flow testing, it was determined that the spent fuel building (SFB) air cleanup system did not meet the Technical Specification air flow requirement of 4,000 cfm +/-10%. The measured flow rate was 1,990 cfm. Although the system had not yet been required to be operable during the current outage it is likely that the system was operated during a previous refueling outage with a flow rate below the minimum requirement. The cause of the event was the failure to recognize that the coincident operation of the PAB and SFB air cleanup systems has an effect on the air flow test results. Since the SFB and PAB air cleanup systems discharge into a common duct, the SFB air flow is affected by the PAB system total air flow. Initial corrective action was to adjust a SFB air cleanup system damper to achieve the required air flow rate. Additionally, the operating procedures were revised to verify adequate air flow prior to moving fuel or operating the crane with a load over the spent fuel pool. This supplemental report provides additional information on the cause and the corrective actions taken.

BACKGROUND INFORMATION

The spent fuel building (SFB) exhaust fan takes suction on the area over the spent fuel pool and discharges to a duct that leads to the vent stack. During normal operation the exhaust fan is manually aligned to bypass the charcoal filtration train. During operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool, the system is manually aligned with the charcoal filtration train in service. The charcoal filtration train consists of prefilters, high efficiency particulate air (HEPA) filters, and charcoal adsorbent trays. The SFB air cleanup system exhaust duct joins a common duct that also directs the primary auxiliary building (PAB) air cleanup system to the vent stack. Technical Specification 3.9.12 requires the SFB air cleanup system to be operable during operations involving movement of fuel within the storage pool or crane operation with the loads over the storage pool. Technical Specification 4.9.12 requires that the system be capable of operating with a flow rate of 4000 cfm +/- 10%

EVENT DESCRIPTION

On September 27, 1996, at 1617 hours, with the plant in Mode 5 (cold shutdown) for the cycle 19 refueling outage, while performing air flow testing, it was determined that the spent fuel building (SFB) air cleanup system did not meet the Technical Specification air flow requirement of 4,000 cfm +/- 10%. The measured flow rate was 1,990 cfm. Although the system had not yet been required to be operable during the current outage it is likely that the system was operated during a previous refueling outage with a flow rate below the minimum requirement.

CAUSE OF THE EVENT

The cause of the event was the failure to recognize that the coincident operation of the PAB and SFB air cleanup systems has an effect on the air flow test results. Since the SFB and PAB air cleanup systems discharge into a common duct, the SFB air flow is affected by the PAB system total air flow.

Air flow tests showed that the PAB air cleanup system configuration has an effect on the SFB air cleanup system air flow. This is due to the increased pressure in the common exhaust duct caused by the operation of the second PAB exhaust fan. The number of PAB exhaust fans operating has an effect on the SFB air flow. During the previous SFB air flow test, one of the two PAB exhaust fans was operating and the results were satisfactory. The low air flow was measured while both PAB exhaust fans were operating.

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

SAFETY ASSESSMENT

This event is reportable under 10CFR50.73(a)(2)(i)(B) as any operation or condition prohibited by the plant's Technical Specifications.

The SFB air cleanup system is required to be operable in various modes. Preliminary investigations determined that the system surveillance was typically performed in Mode 1. During Modes 1 through 4 only one of two PAB exhaust fans would be operating. Therefore, if movement of fuel in the pool or crane operation over the pool was performed in Modes 1 through 4, the air flow would likely have met the Technical Specification requirement. However, during Modes 5 and 6 when the second PAB exhaust fan is in operation, purging containment, it is likely the SFB air cleanup system would have been below the Technical Specification requirement.

The design basis for the SFB air cleanup system specifies manually setting the damper positions and obtaining a negative pressure in the SFB. The system operation during fuel handling activities assumes a minimum air flow of 4000 cfm +/- 10% through the filters maintaining the slightly negative pressure. If a fuel handling accident occurred under the as-found test conditions the potential existed for adequate air filtration not being available.

Prior to the Systematic Evaluation Program (SEP) in 1981, no credit was taken for the SFB filtration system. As part of SEP Topic XV-20, the radiological consequences of the fuel handling accident were reevaluated. The resulting thyroid dose was 210 REM (less than 10CFR Part 100 limit) without credit for charcoal filters. However, since this exceeded the SRP acceptance criteria of 75 REM, Technical Specifications were incorporated to ensure the filters were tested and to ensure the system was in service while moving fuel.

Although the system had not been required to be operable during the current outage it is likely that the system was operated during a previous refueling outage with a flow rate below the minimum requirement. Therefore, this event is being reported as a potential, historical condition prohibited by the Technical Specifications.

CORRECTIVE ACTION

Initial corrective action was to adjust a SFB air cleanup system damper to achieve the air flow rate required by the Technical Specifications.

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

Administrative controls were put in place which required air flow testing to be performed with the PAB and SFB air cleanup systems aligned prior to fuel movement or operating the crane with a load over the spent fuel pool. These controls involved changes to the operating procedures. If changes were required to be made to either system (e.g.startup or shutdown of a PAB exhaust fan) fuel movement was stopped, the necessary changes made, flow testing performed to verify adequate flow and fuel movement resumed.

No changes to the surveillance procedure were required since the test method is independent of the fan configuration. As stated above, the surveillance procedure will be performed for any given fan configuration prior to fuel movement or operating the crane with a load over the spent fuel pool.

ADDITIONAL INFORMATION

This supplemental report was issued to provide the results of the investigation and the associated corrective actions.

PREVIOUS SIMILAR EVENTS

None.