



CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT

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

March 11, 1994

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

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 50-213/94-003-00

Gentlemen:

This letter forwards the Licensee Event Report 94-003-00, required to be submitted, pursuant to the requirements of the Haddam Neck Plant's Technical Specifications.

Very truly yours,

John P. Stetz
Vice President

JPS/mlg

Attachment: LER 50-213/94-003-00

cc: Mr. Thomas T. Martin
Regional Administrator, Region I
475 Allendale Road
King of Prussia, PA 19406

William Raymond
Sr. Resident Inspector
Haddam Neck

180000

Stetz

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Haddam Neck	DOCKET NUMBER (2) 0 5 0 0 0 2 1 1 3	PAGE (3) 1 OF 0 4
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Containment Personnel Hatch Failed Leak Rate 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 NAMES										
0	2	10	9	4	9	4	0	3	0	0	0	3	1	1	9	4			
DOCKET NUMBER(S): 0 5 0 0 0																			
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OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(vi)	<input type="checkbox"/> 73.71(b)								
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)								
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 356A)								
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)									
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)									
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)										

LICENSEE CONTACT FOR THIS LER (12)										
NAME J. Fan, Engineer								TELEPHONE NUMBER 21013 216171-121516		

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFAC. TOLER.	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFAC. TOLER.	REPORTABLE TO NPROS	

SUPPLEMENTAL REPORT EXPECTED (14)								EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If #s, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO											

ABSTRACT

On February 10, 1994, at 0912 hours, with the plant in Mode 1, at 100 percent power, the containment air lock reduced pressure test was performed by plant operators in accordance with Technical Specification 4.6.1.3(a) after a containment entry was made on February 8, 1994. The pressure decay rate calculated by plant operators met the procedural acceptance criteria but a subsequent calculation completed by Engineering to adjust for an air lock temperature increase yielded a leak rate in excess of the Technical Specification limit. The cause of the failure is attributed to a procedure deficiency. The test procedure did not provide adequate guidance to the operator in the event a temperature increase was observed during the 60 minutes hold time. A temporary procedure change was immediately generated to correct the procedure, and the airlock leak test was re-performed with a Volumetrics Leak Rate Monitor on February 17, 1994. The leak rate recorded on February 17, 1994 was within the Technical Specification limit which indicated the containment air lock was operable. This event is reportable per 10CFR50.73(a)(2)(ii) and 10CFR50.73(a)(2)(i)(b) since operability of the containment air lock was not determined within 72 hours of the containment entry.

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

BACKGROUND INFORMATION

Technical Specification 4.6.1.3(a) requires that within 72 hours following each closing, the containment (EIIS Code: JM) air lock be demonstrated operable by verifying that the leak rate is no greater than .01 La when the volume between the door seals is pressurized to greater than 10 psig for at least 15 minutes. In addition, Technical Specification 3.6.1.3(b) requires that the overall air lock leakage be less than or equal to 0.05 La at 39.6 psig. Technical Specification 3.6.1.2 (b) requires a combined leakage rate of less than 0.60 La for all penetrations and valves subject to type B and C tests when pressurized to Pa.

EVENT DESCRIPTION

On February 10, 1994, at 0912 hours, with the plant in Mode 1, at 100 percent power, the containment air lock reduced pressure test was performed by plant operators in accordance with Technical Specification 4.6.1.3(a) and surveillance procedure SUR 5.1-62A, "Personnel Hatch Reduced Pressure Leak Test" after a containment entry was made on February 8, 1994. A pressure decay rate of 0.0013 psi/min was recorded by plant operators during the test which met the procedural acceptance criteria of ≤ 0.0024 psi/min. On February 17, 1994, Engineering received the completed surveillance for evaluation and processing. Using the guidelines provided in SUR 5.7-15 "Individual Containment Penetration Test Calculation and Documentation", the pressure decay rate in psi/min was converted into lbm/day with an adjustment made to account for the increase in test volume temperature. The calculated reduced pressure test leak rate was then converted to full pressure leak rate. The equivalent full pressure leak rate calculated for the February 10, 1994 surveillance was 63.564 lbm/day which exceeded the Technical Specification 3.6.1.3(b) leak rate limit of 54 lbm/day (0.05 La).

CAUSE OF THE EVENT

The containment air lock leak rate testing procedure SUR 5.1-62A contained detailed guidance to ensure sufficient time is allowed for the test volume to reach thermal equilibrium prior to the start of the test. However, if the isolated test volume temperature increased during the 60 minutes test period no provision existed in SUR 5.1-62A to direct the operator to allow more time for temperature stabilization or seek assistance from Engineering. For the majority of containment penetration local leak rate tests temperature fluctuation experienced during the test period will not affect the test result due to the small test volume (less than 1 ft³).

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

The containment air lock has a test volume of 585.33 ft³, thus a small temperature increase of 0.6 degrees F had a significant impact on the calculated leak rate. Therefore, the cause of the event was a procedure deficiency in that the test procedure did not provide adequate guidance to the operator in the event a temperature increase was observed during the 60 minute hold time.

SAFETY ASSESSMENT

This event is reportable under 10CFR50.73(a)(2)(ii) since it was reported as a 4 hour report under 10CFR50.72(b)(2)(i). It is also reportable under 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications since operability of the containment air lock was not determined within 72 hours of the containment entry.

The satisfactory containment air lock local leak rate test completed on February 17, 1994 with the Volumetrics Leak Rate Monitor demonstrated containment air lock operability and thus proved that the containment integrity was never compromised. The high leak rate of 63.564 lbm/day was incorporated in the running summary which yielded a total of 274.948 lbm/day, which is well below the Technical Specification 3.6.1.2(b) limit of 650 lbm/day (0.6 La). Based on this, not determining the operability of the containment air lock within 72 hours of the containment entry is judged to have no safety significance.

CORRECTIVE ACTION

Upon discovery of the procedure deficiency in SUR 5.1-62A, a temporary procedure change (TPC 94-067) was generated on February 17, 1994 to direct the operators to revert back to the temperature stabilization section of the procedure when temperature increase is noted during the 60 minute test period. In addition, a containment air lock reduced pressure test was performed on February 17, 1994 with the Volumetrics Leak Rate Monitor. The local leak rate test results were satisfactory which demonstrated containment air lock operability.

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

The containment air lock reduced and full pressure local leak rate test procedures (SUR 5.1-62A and B) will be revised to incorporate the lessons learned. In addition, all other containment local leak rate test procedures have been reviewed to prevent similar occurrences. The containment air lock local leak rate test is unique for the following reasons:

1. It is the only local leak rate test that can be performed while the plant is in Mode 1.
2. It has its own Technical Specification leak rate limit.
3. It has a very large isolated test volume (585.33 ft³). It was determined that no revisions are required for any of the other penetration local leak rate test procedures.

ADDITIONAL INFORMATION

None

PREVIOUS SIMILAR EVENTS

None