



CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT

RR#1 • BOX 127E • EAST HAMPTON, CT 06424-9341

December 7, 1990  
Re: 10CFR50.73(a)(2)(v)(B)

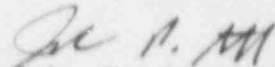
U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Reference: Facility Operating License No. DPR-61  
Docket No. 50-213  
Reportable Occurrence LER 50-213/90-027-00

Gentlemen:

This letter forwards the Licensee Event Report 90-027-00, required to be submitted, pursuant to the requirements of Connecticut Yankee Technical Specifications.

Very truly yours,

  
John P. Stetz  
Station Director

JPS/dl

Attachment: LER 50-213/90-027-00

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

J. T. Shedlosky  
Sr. Resident Inspector  
Haddam Neck

9012120231 901207  
PDR ADCCK 05000213  
S PDC

LICENSEE EVENT REPORT (LER)

|   |   |                             |
|---|---|-----------------------------|
| FACILITY NAME (1)<br><b>Haddam Neck</b> | DOCKET NUMBER (2)<br><b>0 5 0 0 0 2 1 3</b> | PAGE (3)<br><b>1 OF 0 3</b> |
|---|---|-----------------------------|

TITLE (4)  
**Temporary Loss of Spent Fuel Cooling Due to Loss of Power**

| 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   |
|                |            |            |                |                   |                 |            |            |                               | DOCKET NUMBER(S) |
| <b>0 6</b>     | <b>0 8</b> | <b>9 0</b> | <b>9 0</b>     | <b>0 2 7</b>      |                 | <b>0 6</b> | <b>1 2</b> | <b>0 7 9 0</b>                | <b>0 5 0 0 0</b> |
|                |            |            |                |                   |                 |            |            |                               | <b>0 5 0 0 0</b> |

|                                  |   |                 |                  |                   |                  |                 |                  |                   |
|----------------------------------|---|-----------------|------------------|-------------------|------------------|-----------------|------------------|-------------------|
| OPERATING MODE (9)<br><b>6</b>   | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50.73 (Check one or more of the following) (11) |                 |                  |                   |                  |                 |                  |                   |
|                                  | 20.402(b)   | 20.405(a)(1)(i) | 20.405(a)(1)(ii) | 20.405(a)(1)(iii) | 20.405(a)(1)(iv) | 20.405(a)(1)(v) | 20.405(a)(1)(vi) | 20.405(a)(1)(vii) |
| POWER LEVEL (10)<br><b>0 0 0</b> |   |                 |                  |                   |                  |                 |                  |                   |
|                                  |   |                 |                  |                   |                  |                 |                  |                   |
|                                  |   |                 |                  |                   |                  |                 |                  |                   |
|                                  |   |                 |                  |                   |                  |                 |                  |                   |
|                                  |   |                 |                  |                   |                  |                 |                  |                   |

|  |  |                  |                        |
|--|--|------------------|------------------------|
| LICENSEE CONTACT FOR THIS LER (12)               |  | TELEPHONE NUMBER |                        |
| NAME<br><b>L. E. Lebaron, Associate Engineer</b> |  | AREA CODE        |                        |
|  |  | <b>2 0 3</b>     | <b>2 6 7 - 2 5 5 6</b> |

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) |        |           |              |                      |       |        |           |              |                      |
|--|--------|-----------|--------------|----------------------|-------|--------|-----------|--------------|----------------------|
| CAUSE  | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC/DS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC/DS |
|  |        |           |              |                      |       |        |           |              |                      |
|  |        |           |              |                      |       |        |           |              |                      |
|  |        |           |              |                      |       |        |           |              |                      |

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

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

ABSTRACT

On November 12, 1990, at 1035 hours with the plant in Mode 5 (cold shutdown) a reportability evaluation determined that the temporary loss of spent fuel pool cooling that occurred on June 8, 1990, was reportable. On June 8, 1990, at 0612 hours with the plant in Mode 6 (refueling) the spent fuel pool cooling pumps were temporarily deenergized while restoring circuit breaker alignments to normal following the replacement of all breakers on a 125 volt D.C. distribution panel. The root cause was procedural inadequacy in that the restoration procedure did not specify the sequence in which electrical loads were to be reenergized resulting in a bus undervoltage protection circuit being energized before the bus itself. Corrective action consisted of restoring power to the spent fuel pool cooling pumps in approximately 25 minutes and revising the procedure to prevent recurrence. This event is reportable under 10CFR50.73(a)(2)(v)(B) as a condition that alone could have prevented the fulfillment of the safety function of a system needed to remove residual heat.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

|                                      |  |                |                   |                 |          |    |     |
|--------------------------------------|--|----------------|-------------------|-----------------|----------|----|-----|
| FACILITY NAME (1)<br><br>Haddam Neck | DOCKET NUMBER (2)<br><br>0 5 0 0 0 2 1 3 | LER NUMBER (6) |                   |                 | PAGE (3) |    |     |
|                                      |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |    |     |
|                                      |  | 9 0            | 0 2 7             | 0 0             | 0 2      | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 306A's) (17)

BACKGROUND INFORMATION

The spent fuel pool cooling (EIIS Code: DA) pumps (P-21-1A & 1B) (EIIS Code: P) are powered through Motor Control Center 2 (MCC-2) from 480 volt buses 4 and 5, respectively. Both pumps normally receive emergency power from the same emergency diesel generator (EG-2A) (EIIS Code: EK) which supplies power to 480 volt buses 4 and 5 from the 4160 volt emergency bus 8. The undervoltage protection circuit for bus 8 is powered from 125 volt D.C. bus "A" (EIIS Code: EI)

EVENT DESCRIPTION

On November 12, 1990, at 1035 hours with the plant in Mode 5 (cold shutdown) a reportability evaluation determined that the temporary loss of spent fuel pool cooling that occurred on June 8, 1990, was reportable. On June 8, 1990, at 0612 hours, with the plant in Mode 6 (refueling) operators were restoring circuit breaker alignments to normal following the replacement of all breakers on the 125 volt D.C. distribution switchboard panel A (DC-BUS-A). This work was being done as part of Plant Design Change Request 995. During the restoration, the undervoltage protection circuit for bus 8 was energized before the bus itself which caused the load shedding of non-vital loads from bus 8 and buses 4 and 5 resulting in the deenergization of both spent fuel cooling pumps. The error was identified, the buses were reenergized at 0635 and the "A" spent fuel cooling pump was started at 0637.

CAUSE OF THE EVENT

The root cause of the event was procedural inadequacy in that the procedure controlling the breaker replacement did not specify the sequence in which electrical loads were to be reenergized.

SAFETY ASSESSMENT

This event is reportable under 10CFR50.73(a)(2)(v)(B) as a condition that alone could have prevented the fulfillment of the safety function of a system needed to remove residual heat.

Under worst case conditions, it will take more than eight hours before the spent fuel pool will begin to boil. The heat load on the spent fuel pool cooling system at the time of the event was very low due to the extended time the reactor was shut down. The pool heat up rate has been measured under similar conditions at between one and two degrees per hour which allows the operators

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

|                                      |  |                |                   |                 |          |    |     |
|--------------------------------------|--|----------------|-------------------|-----------------|----------|----|-----|
| FACILITY NAME (1)<br><br>Haddam Neck | DOCKET NUMBER (2)<br><br>0 5 0 0 2 1 3 9 0 | LER NUMBER (6) |                   |                 | PAGE (3) |    |     |
|                                      |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |    |     |
|                                      |  | 0 2 7          | 0 0               | 0 0             | 0 3      | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 306a's) (17)

ample time to establish temporary power to a spent fuel pool cooling pump. During this event the pumps were only off for approximately 25 minutes.

Emergency Operating Procedure EOP 3.1-10, "Partial Loss of A.C.", Attachment 6: "Powering the Spent Fuel Pool Cooling Pumps from Bus Seven" provides instructions to temporarily power the pumps from an alternate source.

Based on the above, this event has limited safety significance.

CORRECTIVE ACTION

Corrective action consisted of restoring normal power to the spent fuel cooling pumps in approximately 25 minutes and revising the procedure controlling the breaker replacement to prevent recurrence. The breakers in D.C. bus BX were subsequently replaced without incident using the revised procedure.

ADDITIONAL INFORMATION

None

PREVIOUS SIMILAR EVENTS

LER 87-015-01