



GPU Nuclear Corporation
Post Office Box 388
Route 9 South
Forked River, New Jersey 08731-0388
609 971-4000
Writer's Direct Dial Number:

May 9, 1996
6730-96-2165

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, DC 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Licensee Event Report 96-004

Enclosed is Licensee Event Report 96-004. This event did not impact the health and safety of the public.

If any additional information or assistance is required, please contact Mr. John Rogers of my staff at 609.971.4893.

Michael B. Roche
Michael B. Roche
Vice President and Director
Oyster Creek

MBR/JJR
Enclosure

cc: Oyster Creek NRC Project Manager
Administrator, Region I
Senior Resident Inspector

9605170479 960509
PDR ADOCK 05000219
S PDR

Indexed 5-31-96

LICENSEE EVENT REPORT (LER)

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)

Oyster Creek Unit 1

DOCKET NUMBER (2)

05000 - 219

PAGE (3)

1 of 4

TITLE (4)

Improper Opening of Primary Containment Valve Due to Accidental Mispositioning

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|--------------------|-----|------|---|-------------------|----------|-------------------|-----|------|-------------------------------|---|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 04 | 09 | 96 | 96 | -- 04 -- | 00 | 05 | 09 | 96 | FACILITY NAME | DOCKET NUMBER |
| | | | | | | | | | | 05000 |
| | | | | | | | | | | 05000 |
| OPERATING MODE (9) | | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) | | | | | | | |
| POWER LEVEL (10) | | 100 | 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

Gregory Harttraft

TELEPHONE NUMBER (Include Area Code)

609.971.2287

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 | MONTH | DAY | YEAR |
| | | | | | |

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

On April 9, 1996, during leak testing of the Containment Spray System Heat Exchanger 1-1 tubes, the 1-2 heat exchanger thermal relief valve was found in the open position, causing approximately 100 gallons of torus water to leak onto the Reactor Building 23 foot elevation. This temporarily created an open path between the primary and secondary containments.

The root cause of this event was determined to be accidental valve mispositioning during disassembly and cleaning of the containment spray heat exchanger. A contributory cause was determined to be the installation of thermal relief valves with manual lift levers.

Immediate corrective action was taken to isolate the leak. The leak test of the heat exchanger tubes was reperformed which verified V-21-22 was actually closed. A reemphasis of the need to exercise care when working close to plant equipment was conducted with the personnel involved in this maintenance activity.

Long term corrective actions include: 1) the removal of the manual lift levers from the thermal relief valves; and 2) performing an evaluation on the practicality of relocating the thermal relief valves.

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

DATE OF DISCOVERY

This condition was discovered on April 9, 1996 at approximately 2115 hours.

IDENTIFICATION OF OCCURRENCE

The Containment Spray (EIS Code: BE) Heat Exchanger (EIS Component: HX) relief valve V-21-22 (EIS Component: RV) was found leaking and determined to be in the open position. This is a breach of the primary containment.

This event has been determined to be reportable under 10 CFR 50.73(a)(2)(i).

CONDITIONS PRIOR TO DISCOVERY

At the time of discovery, the plant was at normal temperatures and pressures to support full power operations.

DESCRIPTION OF OCCURRENCE

During an online maintenance window for the Containment Spray System, the 1-1 Containment Spray Heat Exchanger had been opened, cleaned, and prepared for reassembly. The discharge piping of thermal relief valve V-21-22 on the 1-2 heat exchanger had been disconnected and removed due to interference with the heat exchanger head removal. During the cleaning of the 1-2 heat exchanger, leak testing was performed on the 1-1 heat exchanger tubes. The leak test on the 1-1 heat exchanger tubes requires running the 1-1 Containment Spray Pump which pressurizes the shell side of both the 1-1 and 1-2 heat exchangers. When the containment spray pump was started, water was observed discharging from V-21-22. The valve manual lift lever was found to be in the open position. This caused approximately 100 gallons of torus water to leak onto the Reactor Building 23 foot elevation floor.

The containment spray pump was secured and V-21-22 was closed manually. An inspection of the other relief valves in the area was completed and no additional mispositioning was found. The containment spray pump was restarted and V-21-22 was verified to be closed and not leaking. These valves do not automatically reclose after a manual opening.

NRC FORM 365A
(4-95)

U.S. NUCLEAR REGULATORY COMMISSION

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TEXT (If more space is required, use additional copies of NRC Form 365A) (17)

APPARENT CAUSE OF THE OCCURRENCE

The root cause of the 1-2 heat exchanger leak was determined to be accidental valve mispositioning during the disassembly and cleaning of the 1-2 heat exchanger. It is believed that the valve lift lever was accidentally mispositioned during the operation of the chainfall used to remove the 1-2 heat exchanger head.

A contributory cause was determined to be the installation of thermal relief valves with manual lift levers. If the lever had been removed, the valve could not have been mispositioned.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

The safety significance of this occurrence has been determined to be minimal. The safety function of the Containment Spray System is to reduce containment pressure and temperature following a design basis Loss of Coolant Accident (DBA LOCA). A review of this occurrence determined that V-21-22 had been open for a maximum of 36 hours. The leakage path created by the open valve is a direct path from the primary containment to the secondary containment. However, during the conditions of the plant at the time of the occurrence, primary containment leakage did not occur due to a loop seal of torus water in the suction line and heat exchanger.

The spray of torus water from the valve during the leak test did not threaten any safety system components or challenge the operation of any components located near by.

The mispositioning of the V-21-22 had negligible effect on the ability of the Containment Spray System to remove heat from the primary containment. The maximum calculated flow through the relief valve during a DBA LOCA is less than fifteen gpm. Normal system flow rates in both modes of containment spray operation are greater than 3500 gpm.

During DBA LOCA conditions with the system idle, the loop seal would have eventually been lost and provided a leak path from the primary containment. Calculations have shown that the leak rate would have been in excess of the Technical Specification limit. Under design basis accident conditions, the leakage would have been processed through the Standby Gas Treatment System, monitored, and released through the stack.

NRC FORM 366A
(4-95)

U.S. NUCLEAR REGULATORY COMMISSION

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ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT (Cont.)

A qualitative analysis relative to the design basis accident was performed. It concluded that the potential off site dose consequences as a result of this event during a DBA LOCA under the two cases evaluated (Containment Spray System idle or in operation) were negligible. Therefore, it was concluded that while the mispositioning of V-21-22 was a Technical Specification violation, it constituted only a minor safety risk.

CORRECTIVE ACTIONS

Upon determination that the relief valve was in the open position, immediate corrective actions were taken to isolate the leak. The containment spray pump was secured and relief valve V-21-22 was manually closed. The system inservice leak test was reperformed and verified that the valve was actually closed. The other valves in the area were inspected to ensure that they were not in the open position. No additional mispositioned valves were found.

A discussion of the need to exercise care when working close to plant equipment was conducted with the personnel involved in this maintenance activity and will be included for review with all maintenance personnel in upcoming crew meetings. This will be completed by July 1, 1996.

Additionally, the following long term corrective actions have been initiated:

1. The manual lift levers on all four of the containment spray heat exchanger relief valves will be removed by July 1, 1996, to eliminate the possibility of any additional valve mispositioning.
2. The physical location of the thermal relief valves will be evaluated to determine if relocating the valve would improve heat exchanger maintainability. This may include rerouting of the relief valve discharge piping to eliminate the interference in removing the heat exchanger head.

SIMILAR EVENTS

None.