GPU Nuclear

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April 25, 1985

Dr. Thomas E. Murley, Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Dr. Murley:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Special Report 85-02

Enclosed is Special Report No. 85-02 which is submitted in accordance with Technical Specifications 6.9.3.f.

If any questions or comments should arise, please contact Mr. Drew Holland, Oyster Creek Licensing Manager at (609)971-4643.

Very truly yours,

Peter B. Fiedler
Vice President and Director
Oyster Creek

PBF/DGH/dam
Enclosure

cc: NRC Resident Inspector
Oyster Creek Nuclear Generating Station
Forked River, NJ 08731

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OYSTER CREEK NUCLEAR GENERATING STATION
Forked River, New Jersey 08731

Special Report 85-02

Report Date

April 25, 1985

Occurrence Date

February 25, 1985

Identification of Occurrence

During the operability tests Electromatic Relief Valves (EMRVs) NR-108B, NR-108C and NR-108D failed to fully reseat after their initial actuation. The valves reseated after repeated actuations.

This event is reportable in accordance with Technical Specifications 6.9.3.f.

Conditions Prior to Occurrence

Power 19.3 MWT
0 MWE

The plant was in the start-up mode.

Description of Occurrence

On February 25, 1985, during the performance of procedure 602.4.003 - "Electromatic Relief Valve Operability Test", EMRVs NR-108B, NR-108C, and NR-108D failed to reseat completely after their initial actuation. The valves reseated as follows: NR-108B after two actuations; NR-108C after eight actuations; and NR-108D after three actuations. Valves "B" and "C" leaked initially before reseating. Valve "D" remained open until the third actuation. These conclusions were determined by monitoring the acoustic monitors.

Apparent Cause of Occurrence

The difficulty in attaining a complete shutoff after actuation is apparently due to the design of the valve. In order to regain a leak-tight shutoff the valve disc is required to reseat in the same position from which it lifted. The narrow seating area and the existing clearance make this extremely difficult.

Analysis of Occurrence and Safety Assessment

The function of the EMRVs is to depressurize the reactor to allow the Core Spray System to operate during a small break loss of coolant accident. In addition, the valves actuate on high reactor pressure transients to maintain reactor pressure below the safety valve setpoint.

The failure of NR-108B and NR-108C to fully seat is considered of minimal safety significance since leakage through the seat was well within the makeup capability of the Control Rod Drive System.

EMRV NR-108D apparently stuck partially or fully open until actuated three times. The safety significance of this failure is of more concern. If a relief valve were to remain open while at power and a loss of feedwater occurred, the results would be similar to a small break LOCA. However, because the steam would be discharged directly to the suppression pool, no increase in drywell pressure would occur and the logic for automatic depressurization would not actuate, operator action would be required to mitigate the consequences of this event to adequately control reactor level. Alarms and instrumenation are provided to alert the operator of this event.

Because of the potentially higher probability of failure of untested valves following maintenance, the testing of EMRVs is intentionally scheduled during startup, prior to reaching significant power levels. Under these conditions of very low power and very low decay heat, the safety significance of the failure of NR-108D to close is minimal.

Corrective Action

Valves "C" and "D" were disassembled, inspected and rebuilt. Other than the seat area and clearances, no cause was found for the problem. The valves were tested, reinstalled, and operated successfully.

For future improvements, the manufacturer of the valves is being contacted to investigate changing the seat configuration. In addition, the maintenance procedure will be revised to reflect any improvements.

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