

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 84-10
Docket No. 50-219
License No. DPR-16 Priority -- Category C
Licensee: GPU Nuclear Corporation
100 Interpace Parkway
Parsippany, New Jersey 07054
Facility Name: Oyster Creek Nuclear Generating Station
Inspection At: Forked River, New Jersey
Inspection Conducted: March 16 - April 30, 1984
Inspectors: *J. Wechselberger* 8/6/84
J. Wechselberger, Resident Inspector date
C. G. Cowgill 8/6/84
C. G. Cowgill, Senior Resident Inspector date
Approved by: *E. L. Conner* 8/7/84
E. L. Conner, Chief, Reactor Projects date
Section 1B

Inspection Summary: Inspection on March 16 - April 30, 1984 (Report No. 50-219/84-10)

Areas Inspected: Routine inspection by the resident inspectors which included review of plant operations, log and record review, plant tours, review of physical security, review of radiation protection, maintenance observation, review of refueling preparations, review of periodic and special reports, and review of licensee event reports. The inspection involved 194 inspector-hours.

Results: No violations were identified. The licensee identified cracking in the isolation condenser steam and condensate lines outside the drywell. The inspectors reviewed Nondestructive Testing associated with this problem. The inspectors will continue to follow licensee identification and repair efforts.

Region I Form 12
(Rev. February 1982)

8408280293 840810
PDR ADOCK 05000219
Q PDR

DETAILS

1. Persons Contacted

T. Brownridge, Maintenance and Construction Jobs Manager
M. Budaj, Manager, Plans and Programs
R. Fenton, Oyster Creek Emergency Preparedness Manager
P. Fiedler, Vice President and Director, Oyster Creek
D. Gaines, Manager, Plant Training, Oyster Creek
D. Grace, Manager, Oyster Creek Engineering Project
C. Halbfoster, Manager, Plant Chemistry
M. Laggart, BWR Licensing Manager
B. Leavitt, Deputy Manager, Radiological Controls
D. Long, Plant Security Supervisor, Oyster Creek
J. Maloney, Manager, Plant Materiel
R. Markowski, QA Oyster Creek Audit Manager
R. McKeon, Manager, Plant Operations
J. Molnar, Core Manager
M. Radvansky, Manager, Tech Functions, Oyster Creek Site
W. Smith, Plant Engineering Director
J. Sullivan, Plant Operations Director
C. Tracy, Manager, Oyster Creek QA MOD/OPS
D. Turner, Manager, Radiological Controls

The inspector also interviewed other licensee personnel during the inspection including management, clerical, maintenance, and operations personnel.

2. Plant Operations Review

2.1 Shift Logs and Operating Records

Shift logs and operating records were reviewed to verify that they were properly filled out and signed and had received proper supervisory reviews. The inspector verified that entries involving abnormal conditions provided sufficient details to communicate equipment status and followup actions. Logs were compared to equipment control records to verify that equipment removed from or returned to service were properly noted in operating logs when required. Operating memos and orders were reviewed to insure that they did not conflict with Technical Specification requirements. The logs and records were compared to the requirements of Procedure 106, "Conduct of Operations," and Procedure 108, "Equipment Control." The following were reviewed:

- Control Room and Group Shift Supervisor's Logs, all entries;
- Technical Specification Log;
- Control Room and Shift Supervisor's Turnover Check Lists;
- Reactor Building and Turbine Building Tour Sheets;

- Equipment Control Logs;
- Standing Orders; and
- Operational Memos and Directive.

2.2 Facility Tours

The inspector frequently toured the following areas:

- Control Room (daily);
- Reactor Building;
- Turbine Building;
- Augmented Off-Gas Building;
- Radwaste Buildings;
- Cooling Water Intake and Dilution Plant Structure;
- Monitor and Change Area;
- 4160 Volt Switchgear, 460 Volt Switchgear, and Cable Spreading Room;
- Diesel Generator Building;
- Battery Rooms;
- Maintenance Work Areas; and
- Yard Areas (including Area Perimeter).

The following observations were made during tours:

- 2.2.1 During daily control room tours, the inspector verified that the control room manning requirements of 10 CFR 50.54(k), Technical Specifications, and the licensee's conduct of operations procedure were met. Shift turnovers were observed for adequacy. Selected control room instrumentation needed to support the cold shutdown, defueled, vessel drained conditions was verified to be operable and indicated parameters within normal expected limits. Recorders were examined for evidence of abnormal or unexplained transients. The inspector verified compliance with Technical Specification Limiting Conditions for Operation (LCO's) applicable to the cold shutdown condition and refueling activities, including those relating to secondary containment integrity, and fire protection systems. The inspector closely monitored outage activities and verified

that operators and supervisors were aware of work in progress and complied with applicable Technical Specification requirements.

No unacceptable conditions were identified.

- 2.2.2 The inspector discussed selected alarmed annunciators with control room operators and supervisors to verify that the alarmed condition was understood and corrective action, if necessary, had been initiated. Operators and supervisors were knowledgeable of alarmed conditions. The inspector closely followed licensee efforts to verify alarm annunciator operability.

No unacceptable conditions were identified.

- 2.2.3 The inspector examined plant housekeeping conditions including general cleanliness, control of material to prevent fire hazards, maintenance of fire barriers, storage and maintenance of fire fighting equipment, and radiological housekeeping. During routine plant tours, the inspector noted continued effort to improve housekeeping conditions throughout the period.

No unacceptable conditions were identified.

- 2.2.4 Equipment control procedures were examined for proper implementation by verifying that tags were properly filled out, posted, and removed, as required, that jumpers were properly installed and removed, and that equipment control logs and records were completed. Selected active tagouts were independently verified by the inspector. Selected cleared tagouts were reviewed to determine that system alignments had been properly restored and safety systems returned to service had been properly tested. Selected locked valves were examined for proper position and installation of locking devices. The inspector monitored outage related activities including erection of scaffold and work platforms, installation of temporary hoses and cables, and the setup of radiological control barriers, to ensure that these activities did not block or otherwise impair the operability of components important to safety, and were controlled in accordance with the equipment control procedures when required.

No unacceptable conditions were identified.

3. Radiation Protection

During entry to and exit from radiation controlled areas (RCA), the inspector verified that proper warning signs were posted, personnel entering were wearing proper dosimetry, that personnel and materials leaving were properly

monitored for radioactive contamination and that monitoring instruments were functional and in calibration. Posted extended Radiation Work Permits (RWP's) and survey status boards were reviewed to verify that they were current and accurate. The inspector observed activities in the RCA to verify that personnel complied with the requirements of applicable RWP's and that workers were aware of the radiological conditions in the area.

No unacceptable conditions were identified.

4. Physical Security

During daily entry and egress from the protected area, the inspector verified that access controls were in accordance with the security plan and that security posts were properly manned. During facility tours, the inspector verified that protected area gates were locked or guarded and that isolation zones were free from obstructions. The inspector examined vital area access points to verify that they were properly locked or guarded and that access control was in accordance with the security plan.

No unacceptable conditions were identified.

5. Maintenance

The inspector observed maintenance activities to verify that activities were properly approved, operations personnel were cognizant of activities in progress, proper procedural controls were in effect, redundant systems and components were available when required, test instrumentation was calibrated, activities were performed in an acceptable manner by appropriately qualified personnel, and appropriate radiological precautions were taken. Portions of the following activities were observed:

- Cable tray installation;
- Cable spreading project tunnel erection;
- Control room alarm panel modification;
- Emergency diesel;
- Torus pitting repair;
- Scram Discharge Volume modification;
- Condensate and Feed System;
- Dilution Pump overhaul;
- Post Accident Sampling Modification; and

-- Isolation Condensate System weld defects.

No unacceptable conditions were identified.

5.1 Scram Discharge Volume Modification

The licensee conducted quality control inspections of all hangers associated with the scram discharge volume modification as a result of deficiencies identified during NRC team inspection conducted March 26-30, 1984. There were a number of Material Nonconformance Reports (MNCR's) issued as a result of these inspections. The inspector reviewed the MNCR's to determine if licensee action on the MNCR was appropriate, engineering calculations used to support disposition were accurate, and if any MNCR resulted in a hanger exceeding design conditions. The following MNCR's were reviewed: 84-216 for hanger PSST-038-2, 84-214 for hanger IPS-014-2, 84-203 for hanger PSST-015-2X, 84-201 for hanger IPS-002-2, 84-217 for hanger PSST-037-2, 84-218 for hanger PSST-004-2, 84-219 for hanger PSST-029-2, and 84-220 for hanger PSST-006-2.

The inspector noted that engineering calculations had been performed for the as-built condition and that while some loading had changed all values were within design allowables. Further, the inspector discussed his observations with NRC Region I representatives knowledgeable in these areas. No unacceptable conditions were identified.

Additionally, the inspector reviewed the licensee's program for inspecting system supports on several modifications including Appendix J Modification on Reactor Coolant Sample System Reactor Water Cleanup System, Shutdown Cooling System, and the Post Accident Sample System. The inspector reviewed the check lists in use and noted that a specific step in each check list was provided to ensure that supports were installed in accordance with the applicable design drawing both in configuration and location. Additionally, steps were included to ensure all support anchors were properly installed. No unacceptable conditions were identified.

5.2 Isolation Condenser Weld Examinations

During a hydrostatic test of the isolation condenser system, the licensee detected a leak emanating from a through wall crack. The licensee ultrasonically examined 35 welds outside of the drywell and 6 welds inside the drywell. The examinations included 10 inch diameter and 8 inch diameter pipe welds. The inspector reviewed the results and inspected representative welds outside of the drywell. In addition to the above, welds which displayed reflector indications which were possible cracks were radiographed to confirm or deny the presence of cracks. Radiographic films representing the following welds were reviewed by the inspector:

- NE-2-12, pipe (3" pipe piece) to elbow - through wall crack
- NE-2-8, pipe to elbow
- NE-2-28, pipe to elbow
- NE-2-98, pipe to elbow

The above 4 welds are 8 inch diameter pipe welds outside of the drywell. The reviewed radiographs were found to display linear indications which were evaluated by the licensee to be evidence of cracks.

The licensee stated that the majority of the welds outside of the drywell contained arc-strikes, weld spatter, punch marks, and evidence of excessive heat. The inspector's visual examination of representative welds confirmed the licensee's findings regarding the above mentioned conditions. The licensee stated that the above conditions will be corrected prior to resuming operations.

The following ultrasonic examinations are planned by the licensee:

- All of condensate line welds outside the drywell - approximately 63 welds;
- Sample of 8 out of 58 steam line welds outside of the drywell - the number of examinations is subject to change depending upon the results of initial examinations;
- Sample of 8 out of 26 condensate line welds inside the drywell; and
- Sample 7 out of 18 steam line welds inside the drywell.

The inspector found that ultrasonic examinations were done by qualified personnel using a technique which has been demonstrated to be capable of detecting intergranular stress corrosion cracking in stainless steel piping welds. The examination data were found to be complete and accurate. Disposition by the licensee of examination findings was based on the evaluation of reflector locations determined by data plots and crack sizes which were determined using the crack Tip Diffraction method. The data sheets and evaluation plots were well done and reflected careful and accurate work on the part of those who participated in the data collection and evaluation of the examination results.

No violations were identified.

At the end of the inspection, the licensee had identified eleven cracks on isolation condenser steam lines and four on isolation condenser return lines, all outside the primary containment boundary. The licensee is continuing his NDE examinations. The inspector will continue to follow licensee action regarding isolation condenser repairs (84-10-01).

6. Review of Licensee Event Reports (LER's)

The inspector reviewed LER's submitted to NRC:RI to verify that the details were clearly reported, including the accuracy of the description and corrective action adequacy. The inspector determined whether further information was required, whether generic implications were indicated, and whether the event warranted onsite followup. The following LER's were reviewed:

- 83-15-03L Electricians found a wire wrapped around armature of undervoltage device (UV). The UV device was replaced and the associated breaker satisfactorily tested.
- 83-18-03L Valve V-28-12 failed to close due to fouled air operator solenoid. The air operator for Valve V-28-12 was repaired and satisfactorily tested.
- 83-19-03L Valve V-28-22 failed to close because the air operator piston failed. The piston was repaired.
- 83-20-03L The 480 volt breaker for one service water pump failed to trip when the undervoltage trip device de-energized. The device was repaired and tested and restored to service. Licensee corrective actions included inspection (preventive maintenance testing) of other similar breakers that are important to safety prior to startup. The inspector will review this area in a future inspection (50-219/84-10-02).
- 83-21-03L Number one diesel generator had power feed fail. Licensee replaced the cable and satisfactorily tested it.
- 83-22-03L Two mechanical snubbers failed during testing. The licensee is investigating the failure mechanism. The inspector will review licensee's investigation on completion (50-215/84-10-03).

7. Preparation for Refueling

The inspector reviewed the licensee's program for refueling preparations including discussions with personnel, review of completed surveillance tests, and review of the licensee's refueling certification document.

The licensee conducted a formal refueling certification which required specific certification by department managers verifying required systems were operable, modifications were complete, maintenance had been satisfactorily performed, and required surveillance tests had been performed. The inspector reviewed the document in detail and selectively checked to ensure that surveillance testing required by the licensee's Technical Specifications had been completed. Additionally, the inspector reviewed operations department Procedure 205, "Reactor Refueling," and 205.5, "Core Refueling (Refueling)." Specifically, the inspector discussed the requirements for 1 cps on an SRM.

The inspector expressed concern that 1 cps would not ensure that an SRM were operable. A licensee representative agreed to ensure that all SRMs read 3 cps on initial testing. The inspector confirmed that licensee testing showed 3 cps. The inspector had no additional questions regarding this matter.

The inspector noted that refueling methods were specifically called out, that one shift could not complete loading of a cell and that each bundle inserted required independent verification. The inspector discussed these requirements with shift operating personnel and operations department supervision to ensure that the requirements were understood. No unacceptable conditions were identified.

The inspector reviewed the "Core Spray System Operation During Torus Modification" procedure. The licensee refueling evolution began before the torus suppression pool was restored to operation. Specific instructions regarding refilling and operating the core spray systems were prescribed including valve and pump operability. The inspector reviewed the procedure with licensee representatives and verified that proper flow paths existed and confirmed that valve lineups included all major flow path valves and that required condensate system valves were included. The inspector then discussed training of the control room operators regarding the procedure. The licensee stated that all operating shift personnel would read the procedure and that a shift discussion would be held. The inspector confirmed that the above training was completed.

No unacceptable conditions were identified.

8. Emergency Preparedness Drill Observations

On April 24, 1984, the licensee conducted a quarterly emergency plan drill. This drill implemented all phases of the site emergency plan. The State of New Jersey participated on a limited basis. In addition, the drill commenced after normal work hours to test site personnel response. The inspector observed portions of the drill from the control room and Emergency Operating Facility. Licensee observers identified a number of areas for improvement including installation of dedicated Emergency Network telephone services. The inspector noted the exercise objectives were met. He also provided comments to utility management.

9. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specification 6.9.1 were reviewed by the inspector. This review included the following considerations: the report includes the information required to be reported to the NRC; planned corrective actions are adequate for resolution of identified problems; and that the reported information is valid. The following periodic reports were reviewed by the inspector.

-- February and March 1984 Monthly Operating Reports

No unacceptable conditions were identified.

10. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. A summary of findings was presented at the conclusion of the inspection. At no time during this inspection was written material provided to the licensee by the inspectors.