

U. S. NUCLEAR REGULATORY COMMISSION

Region I

Report No. 83-01

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: January 1 - 31, 1983

Inspectors: *C. Cowgill*

2/3/83

C. Cowgill, Senior Resident Inspector

date signed

J. Thomas

2/3/83

J. Thomas, Resident Inspector

date signed

Approved by: *L. E. Tripp*

2/8/83

L. E. Tripp, Chief, Reactor Projects
Section 2A

date signed

Inspection Summary: Inspection on January 1 - 31, 1983 (Report No. 50-219/83-01).
Routine inspection by the resident inspectors (128 hours) including review of
plant operations, plant tours, log and record review, surveillance observations,
physical security, radiation protection, review of action on previously
identified items, onsite event review, in-office and onsite review of licensee
event reports, and periodic report review.

Results: Violations: None.

DETAILS

1. Persons Contacted

M. Budaj, Manager, Programs and Controls
P. Fiedler, vice-President and Director, Oyster Creek
V. Foglia, Preventive Maintenance Manager
M. Laggart, Manager, Oyster Creek Licensing
J. Maloney, Manager of Maintenance
J. Molnar, Manager, Core Group
R. Mc Keon, Manager, Plant Operations
W. Smith, Plant Engineering Director
J. Sullivan, Plant Operations Director
D. Turner, Radiological Controls Manager
R. Weltman, Corrective Maintenance Manager

The inspectors also interviewed other licensee personnel during the inspection.

2. Followup of Previous Inspection Findings

(Closed) Violation (82-18-01) Violation of procedures when electrical enclosures were not closed after entry. Procedure 105, revision 18, August 3, 1982, "Conduct of Maintenance"; procedure 105.1, revision 1, April 8, 1982, "General Troubleshooting and Corrective Maintenance"; and procedure 116, revision 10, August 4, 1982, "Surveillance Test Program Schedule and Review of Test Results", provide adequate procedural controls to insure that electrical enclosures are closed and sealed after entry. After the inspector identified this item, the licensee checked the electrical enclosures on all instrument racks and verified they were closed. Frequent observation by the inspectors have found no additional instances where enclosures were left open. The inspector had no further questions on this item.

(Closed) Violation (82-22-01) Violation of technical specifications when isolation condenser isolation trip systems were inoperable during valve maintenance. This violation was the result of a misinterpretation of technical specifications. The licensee has acknowledged the correct intent of the technical specifications and has committed to submit a change request by March 30, 1983, to clarify the specification. A memorandum from the Manager, Plant Operations was issued on January 11, 1983 to all shift personnel performing licensed duties, describing the violation and its causes. The memo reiterated the proper interpretation of the technical specifications involved as well as other similar specifications addressing other safety related components. The inspectors had no further questions on this item.

(Closed) Violation (82-25-01) Failure to follow procedures on visitor escort requirements. The inspectors verified that a note was placed in the plant news letter reiterating the procedural requirements on visitor control. The licensee will increase the emphasis in this area in the General Employee Training courses. Frequent observations by the inspectors have found no recurrences of this violation. The inspector had no further questions on this item.

3. Plant Operations Review

3.1 Shift Logs and Operating Records

Shift Logs and Operating Records were reviewed to verify that they were properly completed 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 was 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 List;
- Reactor Log;
- Reactor Building and Turbine Building Tour Sheets;
- Equipment Status Log;
- Standing Orders;
- Operational Memos and Directives.

No unacceptable conditions were noted.

3.2 Facility Tours

The inspectors frequently visited the following areas:

- Control Room (daily)
- Reactor Building (all levels)
- Turbine Building (all normally accessible areas)

- Augmented Off-Gas Building
- New Rad-Waste Building
- Cooling Water Intake and Dilution Plant Structure
- Monitoring Change Area
- 4160 Volt Switchgear, 460 Volt Switchgear, and Cable Spreading Rooms
- Diesel Generator Building
- Battery Rooms
- Maintenance Work Areas
- Yard Areas (including Protected Area Perimeter)

The following were observed:

3.2.1 During daily control room tours, the inspectors 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. Selected control room instrumentation was verified to be operable and indicated parameters within normal expected limits. Recorders were examined for evidence of abnormal or unexplained transients. Plant stack radiation recorder traces were examined for evidence of abnormal or unplanned releases of radioactive gases. The inspectors verified compliance with selected Limiting Conditions for Operations (LCO's), including ECCS availability and containment integrity by examining switch positions and breaker and valve position indications in the control room. Portions of shift turnovers were observed for adequacy.

No unacceptable conditions were identified.

3.2.2 Selected alarmed annunciators were discussed with control room operators and supervisors to assure they were knowledgeable of plant conditions and that corrective action, if required, was being taken. The operators were knowledgeable of alarm status and plant conditions.

3.2.3 Systems and components were examined for evidence of fluid leaks and abnormal vibration. The calculated identified and unidentified leak rates into primary containment were reviewed. Selected pipe hangers and seismic restraints were visually examined for indications of mechanical interference or fluid leaks. No unacceptable conditions were identified.

- 3.2.4 The inspector verified operability of selected safety equipment by in-plant checks of valve positioning, control of locked valves, power supply availability and breaker positioning. Selected major components were visually inspected for leakage, proper lubrication, operating air supply, and general conditions. Systems checked included the 4160 and 460 volt electrical distribution system, Core Spray System, Containment Spray System, Control Rod Drive Hydraulic System, Standby Liquid Control System, and Standby Gas Treatment System.

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 complete. Selected active tagouts were independently verified by the inspectors. Selected cleared tagouts were reviewed to determine that system alignments had been properly restored and safety systems returned to service had been properly tested. No unacceptable conditions were identified.

- 3.2.5 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. The inspectors noted congestion in some areas of the plant. On one occasion, the inspector identified a waste container taped to a fire hose reel. A licensee representative immediately removed the container when shown. The inspectors also observed that general housekeeping conditions were degrading. No specific unacceptable conditions were identified. The inspectors will continue to observe housekeeping in future inspections.

4. 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. The inspector periodically performed independent surveys to confirm the accuracy of the licensee's postings. Particular attention was given to radiological controls on refueling floor activities which included removal, packaging, and shipment of waste from the spent fuel pool, preparation of the fuel pool for fuel rack modifications, and cleaning and decontamination of the equipment storage cavity. The inspector noted during these tours that the fuel floor area was congested. A licensee representative said that the high activity level in preparation for the forth coming refueling outage was responsible. The inspector will continue to monitor fuel floor activities.

5. 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 of 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. Vehicles onsite were periodically observed to verify proper controls. No unacceptable conditions were identified.

6. Surveillance Testing

The inspector observed surveillance to verify that testing had been properly approved by shift supervision, control room operators were knowledgeable of testing in progress, approved procedures were being used, redundant systems or components were available for service as required, test instrumentation was calibrated, work was performed by qualified personnel, and test acceptance criteria were met. Completed documentation was also reviewed. Parts of the following tests were observed:

- Procedure 619.3.001, revision 6, March 22, 1982, "Scram Discharge Volume High Water Level Test", completed January 18, 1983.
- Procedure 607.4.001, revision 15, November 8, 1982, "Containment Spray and Emergency Service Water Pump Operability Test", completed January 27, 1983.
- Procedure 621.4.008, revision 4, May 13, 1981, "Main Steam Line Rad Monitor Front Panel Test", completed January 31, 1983.

No unacceptable conditions were identified.

7. Followup of Onsite Events

- 7.1 Late on the 4:00 p.m. to midnight shift on January 19, 1983, the plant experienced heavy accumulations of ice in the intake canal. Impingement of pieces of ice on the intake screens was causing jamming and blockage of the screens and forced shutdown of part of the main circulating water pumps. Shortly after midnight, the screen blockage was sufficient to cause the main circulating water pumps to draw the water level down far enough on the outlet side of the screens to lose suction on the screen wash pumps. Noting the decreased water level, the shift supervisor performed an operability surveillance on the Emergency Service Water (ESW) pumps to verify that there was sufficient depth of water over the pump suction to assure pump operability. During the test, all four ESW pumps failed to

develop the required discharge pressure. They were declared inoperable and a reactor shutdown was commenced at 04:47 a.m. on January 20. The shutdown was terminated at 05:40 a.m. when further investigation found that the ESW pump discharge pressure gauges were frozen, and pump operability was verified by measuring pump motor amperage and containment spray heat exchanger differential pressures. The insulation was removed from the pump gauge taps and the piping thawed by heat application. The licensee determined that the heat tracing on the piping was functional but had been improperly installed. The heat tracing was replaced. However, on January 28, 1983, the inspector noted that the insulation had not been properly replaced on two of the four ESW pumps. ESW pump 1 gauge tap had been covered with fiberglass insulation material and partially coated with cement. The insulation was not covered to prevent water damage. ESW pump 2 gauge tap had not been insulated but covered with a light coating of cement. The inspector expressed concern to members of the maintenance staff for the possibility of the pipe freezing and breaking and possibly impairing the ESW pump operability. The inspector noted on January 31, 1983 that the piping had been properly insulated.

The inspector had no further questions on this event.

- 7.2 On the afternoon of January 18, 1983, the power supply breaker to the nitrogen compressors (which supply instrument air to the drywell) was found tripped and no audible alarm had been received in the control room. Licensee investigation found that an "annunciator acknowledge" switch failed, causing the alarm to annunciate without the audible alarm, and caused the alarm window to light up in the "acknowledge" rather than "alarm" status. This caused the alarm to go unnoticed. The failed switch was replaced.

The licensee's investigation of the cause of the breaker trip determined that it was caused by operator error. An equipment operator had attempted to trip the power supply breaker to the reactor building elevator and erroneously tripped the nitrogen compressor breaker which is on the same panel.

The licensee's investigation of this event was prompt and proper. The event was an isolated incident of operator error with no impact on plant safety.

The inspector had no further questions on this item.

- 7.3 On January 18, 1983, the 'A' control rod drive hydraulic pump was removed from service to tighten the head bolts to stop a head gasket leak. While performing this task, a pipe nipple was broken off the pump casing, resulting in a spray of water onto the core spray pumps below. Resistance checks and an operability surveillance were satisfactorily performed on 'C' Core Spray pump. Resistance checks of 'A' Core Spray pump indicated grounds, and the pump was declared inoperable. The licensee met the technical specification action statements relevant to an inoperable core spray pump and an inoperable control rod drive hydraulic pump. The damaged pipe nipple was replaced, the core spray pump was dried out, and both pumps were returned to service on January 19, 1983.

No unacceptable conditions were identified.

- 7.4 At about 11:45 p.m. on January 23, 1983, the radwaste operator noted that the level gauge for Chemical Waste Collecting Tank (WCT) 'B' indicated about 50 percent and had remained at that level for about 16 hours even though the tank had been aligned to receive waste water from the plant floor drain sumps. The operators immediately began an investigation to determine why the tank level had not increased as expected. The operator found water dripping from a pipe chase which penetrated the wall into the vault surrounding the WCT's. This indicated that the vault was flooded to a depth of about three feet. The licensee determined that the tank level gauge had failed and the 'B' WCT had overflowed into the vault. The floor drains in the vault had become clogged with debris so the vault did not drain to the collecting sump. The licensee began periodic radiation and contamination surveys on the new radwaste building North and West walls which form part of the vault. At about 5:00 a.m. on January 24, surface contamination of 6000 to 10,000 disintegration per minute was found on the west wall and water was seeping through hairline cracks in the concrete wall. Soil samples taken where the water had dripped on the ground had activity levels as high as 3.2 E-3 microcuries per gram, primarily Cobalt-60, Cesium-134, and Cesium-137. The wall was covered to prevent spread of contamination, the wet soil was excavated, and the holes were filled with absorbent material. By the morning of January 25, the vault floor drains had been cleared and the water pumped out of the vault preventing any further seepage through the wall. The cause of the level gauge failure was determined to be a dirt clogged pressure regulator in the air supply to the bubbler gauge. By January 26, the outside wall had been decontaminated, about five cubic feet of contaminated soil had been removed, and no further contamination was found. A total of about 7000 gallons of water spilled into the vault. Less than one gallon of water seeped through the wall onto the soil, and no contamination was released outside of the radiation control area.

In February 1981, an overflow of the WCT's occurred and resulted in water seeping through the wall onto the soil. In response to inspector concern for how water could seep through a 3 foot thick concrete wall in less than 24 hours, the licensee examined the construction specifications for the building. The licensee determined that the hair line cracks through which the water seeped were the result of tensile stresses induced in the concrete during drying and that with properly placed rebar, the structural integrity of the wall was not impaired. As a result of this event, the licensee has committed to coat the interior of the wall with a waterproof coating.

Following the event in February 1981, the licensee committed to evaluate the feasibility of installing a level monitoring system in the WCT vault. This would give early warning of flooding since the vault cannot be easily visually inspected. In August 1981, the plant engineering staff submitted a preliminary modification package to the Technical Functions Division for review and approval of the water level monitoring system installation. By the conclusion of this inspection, action to install a water level monitoring system had not been completed. The licensee is presently reevaluating the modification.

The inspector had no further questions on this item.

8. Emergency Plan Implementing Exercise

On January 25, 1983 the licensee conducted an emergency plan drill which exercised all emergency actuation levels of the plan. The inspectors observed selected portions of the drill including control room response, Technical Support Center and Near Site Emergency operations facility activities, and initial setup of offsite monitoring teams. The inspector observations indicated that the licensee met his drill objectives and that response was adequate. After the drill, the inspectors provided some comments to the licensee. No unacceptable conditions were identified.

9. Review of Licensed Operator Requalification

The licensee's NRC approved training plan requires that the licensee prepare and administer an annual licensed operator requalification examination comparable to the NRC operator examination. If an individual fails the written exam, he may continue to perform licensed duties provided he completes an accelerated refresher training program and achieves a passing score on the exam within a short period of time. During the recent requalification cycle, four licensed reactor operators and five licensed senior reactor operators who routinely perform licensed duties failed portions of the licensee administered written exams. Even though these individuals could have continued to perform their normal duties

under NRC regulations, the licensee elected to take a more conservative approach. All of the individuals were removed from licensed duties and placed in an accelerated requalification program. All will have been reexamined by the end of February 1983.

The inspectors reviewed the examination results and determined the licensee's actions to be acceptable.

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

In-Office Review

The inspector reviewed LER's submitted to NRC:R1 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:

<u>LER</u>	<u>SUBJECT</u>
82-58/3L	Main Steam line drain valves failed to close during surveillance testing. The valves were secured and deactivated in the isolation position during plant operation.
82-59/3L	A Reactor Recirculation Pump was removed from service due to mechanical seal leakage. The seal was repaired during a plant shutdown begun on December 9, 1982.
82-60/3L	Less than the minimum required Intermediate Range Monitors (IRM) were operational with the reactor mode switch in the refuel position. No rod movement occurred during the event. An IRM channel was repaired and returned to service and operators required to read a critique of the event. The event occurred because of operator error.
82-61/3L	Valve V-7-31 (offsite isolation valve) failed to close during pre-startup surveillance testing. The failure occurred because one of two solenoid operated pilot valves failed to position properly. The solenoid valve was repaired (magnet wire was dislodged from the valve seat). Additional investigation identified a problem with another solenoid which was repaired. After repairs, V-7-31 was satisfactorily tested.

11. IE Bulletin Review

Licensee actions concerning IE Bulletins were reviewed to verify that

appropriate onsite management was informed; a review for applicability was performed, information discussed in the licensee's response was accurate and that the reply was timely.

- IE Bulletin 82-04, Deficiencies in Primary Containment Electrical Penetration Assemblies. The bulletin described problems with Bunker Ramo Company assemblies. Bunker Ramo assemblies are not in use or planned for use at Oyster Creek. This Bulletin is closed.

12. Review of Periodic 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. Within the scope of the above, the following periodic reports were reviewed by the inspector.

- December 1982 Monthly Operating Report

No unacceptable conditions were identified.

13. 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.