

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-219/81-18

Docket No. 50-219

License No. DPR-16 Priority ---- Category C

Licensee: Jersey Central Power and Light Company

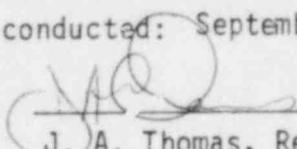
Madison Avenue at Punch Bowl Road

Morristown, New Jersey

Facility Name: Oyster Creek Nuclear Generating Station

Inspection at: Forked River, New Jersey

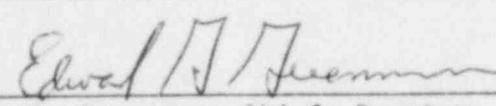
Inspection conducted: September 15 - October 5, 1981

Inspectors: 
J. A. Thomas, Resident Reactor Inspector

10/28/81
date signed

date signed

date signed

Approved by: 
E. G. Greenman, Chief, Reactor
Projects Section 2A

11/9/81
date signed

Inspection Summary: Inspection on September 15 - October 5, 1981 (Report No. 50-219/81-18).

Areas Inspected: Routine inspection by the resident inspector (34 hours) of: licensee action on previous inspection findings, tours of the facility, log and record reviews, surveillance review, and review of periodic and special reports.

Results: Violations: None in three areas, two in two areas (Failure to follow conduct of operations and conduct adequate shift turnover - detail 3.b.(9); Failure to implement written test procedures with appropriate limits - detail 5.).

DETAILS

1. Persons Contacted

J. Carroll, Director, Oyster Creek Operations
K. Fickeissen, Manager, Plant Engineering
E. Growney, Safety Review Manager
M. Laggart, Supervisor, Licensing
A. Rone, Engineering Manager
W. Stewart, Plant Operations Manager
J. Sullivan, Manager, Operations
D. Turner, Radiological Controls Manager

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

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (219/80-32-01): Implement improved RMA exit controls. The licensee reduced the number of RMA exits to three. These exits are continuously manned by health physics technicians who insure that material leaving the RMA is properly surveyed and tagged. The inspector verified by frequent observations of the RMA exits that adequate control of materials leaving the RMA has been established.

(Closed) Unresolved Item (219/81-05-04): SGTS Filter DP magnetic gauges need to be added to 112.1 calibration schedule. Procedure 112.1, Revision 11, dated August 26, 1981, "Calibration of Technical Specification Supporting Installed Instrumentation," includes an annual calibration of the Magnehelic differential pressure gauges on standby gas treatment system filters 1-10, 1-11, and 1-12. Last calibration was October 20, 1980.

(Closed) Unresolved Item (219/81-05-07): Main station and diesel generator surveillance procedures which measure battery specific gravities must include temperature correction factors. No action has been taken to revise the battery surveillance procedures. Technical Specification amendment 55, issued August 13, 1981, has revised the battery surveillance requirements and now requires correction of specific gravity to 77°F. This item is discussed further in paragraph 5. of this report.

(Closed) Unresolved Item (219/81-05-09): Technical Specification change submitted to decrease frequency of station battery load tests. Amendment 55 to Technical Specifications issued August 13, 1981, specifies that battery capacity tests be performed once per 18 months on the station batteries. This amendment identifies the 'B' and 'C' batteries as the station batteries.

3. Plant Tours

- a. Periodic inspection tours of selected plant areas were conducted to verify compliance with Technical Specifications (TS) and the licensee's administrative procedures in the areas of housekeeping and cleanliness, fire protection, radiation control, physical security, and operational control. Areas toured included the following:
- Control Room
 - Turbine Building
 - Augmented Off-Gas Building
 - New Rad-Waste Building
 - Cooling Water Intake and Dilution Plant Structure
 - Monitoring Change Areas
 - 4160 Volt Switchgear, 460 Volt Switchgear, and Cable Spreading Rooms
 - Diesel Generator Building
 - Battery Rooms
 - Maintenance Work Areas
 - Yard Areas
- b. The following observations were made:
- (1) Through daily observation of Control Room monitoring instrumentation and annunciators, log review, and direct observation of selected equipment, the inspector verified that systems were in conformance with Technical Specification (TS) Limiting Conditions for Operation (LCO). Applicable portions of the following LCO's which could be verified by control room observation were checked daily:
- TS 3.3.A Pressure Temperature Relations
 - TS 3.3.D Reactor Coolant System Leakage
 - TS 3.3.F Recirculation Loop Operability

--	TS 3.4.A	Core Spray System
--	TS 3.4.B	Automatic Depressurization System
--	TS 3.4.C	Containment Spray and Emergency Service Water System
--	TS 3.4.D	Control Rod Drive Hydraulic System
--	TS 3.5.A	Primary Containment
--	TS 3.5.B	Secondary Containment
--	TS 3.7.A	Auxiliary Electric Power
--	TS 3.7.C	Standby Diesel Generators
--	TS 3.8.A	Isolation Condensers
--	TS 3.13.A	Relief and Safety Valve Position Indicators

Instrumentation used to verify the above was examined to insure that displayed parameters were within normal and expected limits and that proper correlation existed between redundant instrument channels. Alarmed control room annunciators were reviewed with operators and shift supervisors to verify that the reasons for the alarmed conditions were understood and that the required corrective action was being taken. Systems and components removed from service were reviewed to verify that proper surveillances were performed on redundant systems when required and that system outages did not violate Technical Specification LCO's.

- (2) Local plant instrumentation was selectively examined to verify that required instruments were in service and that proper correlation between channels existed. Safety system actuation sensors were examined to insure that maintenance and construction activities in the area did not impair system operability.
- (3) Monitoring and Change Areas were observed to ensure that entrances to the radiation controlled area (RCA) were properly posted, personnel entering the RCA were wearing proper dosimetry, and that personnel and materials leaving the RCA were properly monitored for radioactive contamination. Through frequent observations of personnel and material exiting

the RCA, the inspector determined that the licensee's RMA exit controls had been adequately implemented.

- (4) During tours of the facility, the inspector made observations to verify that control point procedures were followed, that contamination areas and airborne radioactivity areas were properly posted, that high radiation areas were properly posted and locked as required, and that personnel complied with the requirements of applicable radiation work permits (RWP). The following RWP's were reviewed for completeness:
- RWP 143981 dated September 22, 1981, for spent fuel pool cleanup and removal of old fuel racks.
 - RWP 146281 dated September 28, 1981, for installation of temporary ductwork in the torus.
 - RWP 147981 dated October 1, 1981, to collect and analyze samples from the sample station and chemistry lab.
 - RWP 148381 dated October 1, 1981, for routine observation, inspection, and surveillance of all plant RWP areas.
- (5) Plant housekeeping conditions including general cleanliness, control of material to prevent fire hazards, maintenance of fire barriers, and storage and preservation of equipment were examined. The inspector examined the placement of temporary hoses and extension cords, and the locations of scaffolding erected for maintenance or modification jobs to verify that safety related equipment operability was not impaired. The inspector noted that a considerable amount of scaffold material had been left stacked against the wall in the south-east containment spray pump room and by the equipment hatch on the 51 foot elevation of the reactor building. The location of this material in itself did not impair operation of any safety related equipment. It could, however, present a potential missile hazard during a seismic event. This concern was expressed to the licensee who committed to remove the material prior to plant startup. This item will be re-examined prior to plant startup (219/81-18-01).

- (6) 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 that equipment control logs and records were complete.

The following electrical jumpers were verified to be properly installed:

- Jumper Check-off Sheet 81-359 dated October 1, 1981:
Jumper 14 from wire 157 on relay 1K11 to wire 162 on relay 1K13 and Jumper 30 from wire 179 on relay 2K12 to wire 183 on relay 2K14. These jumpers prevent a full scram signal during performance of under frequency test procedure 619.2.019.
- Jumper Check-off Sheet 81-357 dated August 29, 1981:
Jumper 13 in panel 1F/2F from TBKK-38 to TBKK-41.
This jumper bypassed breaker interlocks while using the 'C' shutdown cooling pump breaker as a temporary feed to the augmented fuel pool cooling pump.

The inspector reviewed all other active jumper Check-off Sheets to verify that installation of electrical jumpers did not violate Technical Specification Limiting Conditions for Operation.

Equipment tags examined in the plant were reviewed to determine that the tags were properly filled out and that the tagged component was in the condition specified on the tag,

- (7) Valves and components in safety related systems were observed to verify proper system alignment. Accessible major flow path valves in the Core Spray, Containment Spray, Control Rod Drive Hydraulic, Emergency Service Water, and Isolation Condenser Systems were examined for proper alignment by direct observation. Remote position breakers in the 460 Volt and 125 Vdc electrical systems were periodically examined for proper alignment. Systems and components were examined for evidence of abnormal vibration and fluid leaks. Selected pipe hangers and seismic restraints were visually examined for indications of mechanical interference or fluid leaks. No unacceptable conditions were identified.

The inspector examined the installation of temporary ventilation ducts to be used for torus area ventilation during the next refueling outage. The inspector noted that none of the

ductwork appeared to be seismically restrained. The ductwork was suspended over safety related cable trays on the 75 foot elevation of the reactor building and over core spray, containment spray, and fire suppression system piping on the 23 and 51 foot elevations. Portions of the ductwork were also suspended near the control rod drive system hydraulic control units and safety related motor control centers. When questioned by the inspector the licensee was unable to provide any information on the seismic considerations used in the design of the ductwork. The licensee stated that a seismic review would be done on the installation prior to startup from the current outage. This item is unresolved pending further review by the licensee and NRC (219/81-18-02).

- (8) Implementation of the Physical Security Plan was observed in the areas toured. The inspector verified that protected area barriers were not degraded, personnel and packages were checked prior to allowing entry into the protected area, security access controls to vital areas were maintained, and that security posts were adequately manned.
- (9) Frequent control room observations were made to insure that the shift manning requirements of 10CFR 50.54(k) were met and that shift turnovers were conducted in an orderly manner. The inspector noted a control room entry on September 29, 1981, indicating that the lead control room operator had left the station for one hour and 42 minutes. He was relieved of his duties as a control room operator by the on-shift Group Operating Supervisor (GOS) but no log entries were made indicating the transfer of responsibility. The GOS stated that he was relieved of his duties as GOS by another qualified GOS who was elsewhere on site. However, no formal shift turnover had been conducted and no log entries were made indicating the transfer of responsibility. Failure to conduct a proper GOS shift turnover and failure to log GOS and Control Room Operator shift turnover constitutes noncompliance with procedure 106, "Conduct of Operations" (219/81-18-03).
- c. Acceptance criteria for the above areas included the most current revisions of the following:
- Technical Specifications
 - Procedure 106, Conduct of Operations
 - Procedure 108, Equipment Control

- Procedure 115, Standing Order Control
- Procedure 119, Housekeeping
- Procedure 120, Fire Hazards
- Procedure 122, Security Guidelines for Plant Personnel
- Procedure 903.2, Personnel Monitoring
- Procedure 903.6, Personnel Regulations
- Procedure 915.1, Restriction of Access into Radiation Control Areas
- Procedure 915.4, Contamination Control
- Procedure 915.6, Radiation Work Permit
- Oyster Creek Physical Security Plan
- 10 CFR 50.54(k)
- Inspector judgment

4. Shift Logs and Operating Records

- a. The inspector reviewed the most current revisions of the following plant procedures to determine the licensee established requirements in this area in preparation for review of selected logs and records:
- Procedure 106, Conduct of Operations;
 - Procedure 108, Equipment Control; and,
 - Procedure 115, Standing Order Control.
- b. Shift logs and operating records were reviewed to verify that:
- Control Room logs were filled out and signed;
 - Equipment logs were filled out and signed;
 - Log entries involving normal conditions provided sufficient detail to communicate equipment status;

- Shift turnover sheets were filled out, signed, and reviewed;
 - Operating orders did not conflict with Technical Specification requirements; and,
 - Logs and records were maintained in accordance with the procedures in a. above.
- c. The review included the following plant shift logs and operating records as indicated, and discussions with licensee personnel. Reviews were conducted on an intermittent selective basis:
- Control Room Log, all entries;
 - Group Shift Supervisors Log, all entries;
 - Technical Specification Log;
 - Control Room Turnover Check List;
 - Reactor Building Tour Sheets;
 - Turbine Building Tour Sheets;
 - Equipment Tagging Log;
 - Lifted Lead and Jumper Log;
 - Defeated Alarm Log;
 - Standing Orders;
 - Operational Memos and Directives.

No unacceptable conditions were identified.

5. Surveillance Testing

The inspector reviewed selected completed surveillance tests to verify that they were completed as scheduled, reviewed as required, and that appropriate corrective actions were initiated as necessary. The following test results were reviewed in detail:

- Procedure 634.2.002 Revision 5, Main Station Weekly Battery Surveillance completed for battery 'A' on October 2, 1981.

- Procedure 634.2.002, Revision 5, Main Station Weekly Battery Surveillance completed for battery 'B' on October 2, 1981.
- Procedure 634.2.002, Revision 5, Main Station Weekly Battery Surveillance completed for battery 'C' on October 2, 1981.
- Procedure 636.2.005, Revision 4, Diesel Generator Weekly Battery Surveillance completed for Diesel Generator Number 1 on October 2, 1981.
- Procedure 636.2.005, Revision 4, Diesel Generator Weekly Battery Surveillance completed for Diesel Generator Number 2 on October 2, 1981.

Upon review of the procedures for the above tests the inspector noted that the acceptance criteria specified in the procedures were less conservative than the acceptance criteria in Technical Specification 4.7. Procedure 634.2.002 specifies a minimum battery voltage of greater than 105 volts for the station batteries and procedure 636.2.005 specifies a minimum diesel generator battery voltage of greater than 98 volts. The minimum battery voltage specified in Technical Specifications is 120 volts for the station batteries and 112 volts for the diesel generator batteries. In addition, Technical Specifications require that electrolyte specific gravities be temperature corrected to 77 degrees F. The above procedures do not require temperature corrections. The inspector subsequently reviewed procedure 634.2.003, Revision 4, "Main Station Battery Monthly Surveillance" and procedure 636.2.006, Revision 3, "Diesel Generator Monthly Battery Surveillance" and found that these procedures also do not specify temperature corrections of electrolyte specific gravities. Technical Specifications also require that battery low voltage annunciators be tested at least once per 18 months. The inspector reviewed procedure 634.2.001, Revision 11, "Main Station Battery Discharge" and procedure 636.2.004, Revision 6, "Diesel Generator Battery Discharge" and found that there are no provisions in these procedures for testing the battery low voltage annunciators.

The inspector determined from a review of the last completed surveillance (October 2, 1981) that all voltage readings did meet the Technical Specification's acceptance criteria. The inspector interviewed several licensee personnel involved with battery surveillance who stated that although the procedures did not require temperature correction of specific gravities they were in fact temperature corrected. Inspector review of specific gravities did not identify any that were close enough to the limit to present a problem unless battery temperatures were abnormally low. The inspector determined that the batteries were in an operable condition; however, failure to implement written test procedures which incorporate the acceptance limits of Technical Specifications constitutes an item of noncompliance (219/81-18-04).

The Technical Specification acceptance limits listed above were incorporated by amendment 55 dated August 13, 1981, to Provisional Operating License DPR-16. The licensee has still not revised existing procedures to implement the new requirements. This is repetitive in that NRC Inspection 50-219/81-14 documented failure to perform required surveillances required by Technical Specification amendment 54. Licensee review of Technical Specification changes after issuance by NRC to insure implementation is unresolved pending further NRC review of licensee corrective action (219/81-18-05).

6. Review of Periodic and Special Reports

The following periodic and special reports submitted by the licensee were reviewed by the inspector. The inspector determined that information was reported to the NRC as required, planned corrective action appeared adequate to resolve identified problems and that reported information was valid.

Monthly Operating Data Report --- August 1981

7. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Paragraphs 3.b.(7) and 5 contain unresolved items.

8. 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 the inspection findings was also provided to the licensee at the conclusion of the inspection on October 6, 1981.