U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 84-12

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: April 30-May 4, 1984

Inspectors: J E Briggs for N. Blumberg, Lead Reactor Engineer — 6/7/84 date

Approved by: L H Bettenhausen, Chief, Test Programs Section — 6/8/84 date

Inspection Summary:

Areas Inspected: Routine, unannounced inspection by one region based inspector of licensee action on previous inspection findings, refueling activities, fuel storage pool non-refueling activities, and QA/QC interfaces to refueling activities. The inspection involved 36 hours on site by one region based inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

*E. Ahearn, Lead Quality Assurance (QA) Auditor
*K. Barnes, Licensing Engineer
*P. Fiedler, Vice President/Director, Oyster Creek Nuclear Generating Station
*J. Fuller, Operations QA Manager
*J. Molnar, Core Engineering Manager
*A. Rone, Manager Operations Engineering
W. Stewart, Operations Control Manager
*J. Sullivan, Plant Operations Director
*C. Tracey, Manager QA/Modification Operations Oyster Creek

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W. Baunack, Project Engineer
*J. Wechselberger, Resident Inspector

* Denotes those present at exit interview

2. Licensee Actions On Previous Inspection Findings

(Closed) Inspector Follow Item (219/83-SC-01):
Perform NRC followup inspection at Oyster Creek Nuclear Generating Station concerning findings identified in the RHR and BETA Consultants reports. This inspection was conducted on March 12-16, 1984 and documented in Inspection Report 219/84-06. This item is closed.

(Closed) Violation (219/82-05-01):
Progammatic and administrative control procedures had not been established by Technical Functions Division, Technical Functions Division On-Site Startup and Test Group, and Maintenance and Construction Division. Station Procedure 105 "Conduct of Maintenance", had not been revised to reflect new licensee organizations and current methods for performing modifications. The inspector verified that the above organizations have issued appropriate programmatic and administrative control procedures. Procedure 105 has been extensively revised and reflects maintenance activities only. All station modification activities are currently described in Procedure 124, "Modification Control", which reflects current methods for performing modifications. Based on the above, this item is closed.

(Closed) Violation (219/82-05-02):
A report for the year 1980 had not been submitted to the NRC describing facility changes and summary of safety evaluations as required by 10 CFR 50.59(b). The licensee stated that the violation was caused by some confusion in the transfer of responsibilities during the reorganization

from Jersey Central Power and Light Company to GPU Nuclear Corporation. The inspector verified that annual 50.59(b) reports have been submitted for modifications performed during the years 1980, 1981, and 1982.

To prevent recurrence the licensee has identified this report on a computerized monthly task status report which is sent to the person responsible for the task and to the appropriate senior managers. The inspector verified that the 1983 modification report has been identified on the task status report. Based on the above, this item is closed.

(Closed) Unresolved Item (219/82-05-03):
The licensee needs to establish a journal method to determine when a modification is sufficiently completed to be declared in service and to ensure complete and accurate information for the annual 10 CFR 50.59(b) report. The inspector reviewed and determined that Technical Functions Procedure EMP-017 "Project Ready-For-Service and Completion Reportings", Revision 0, November 30, 1982, provides the mechanisms for determining completion status of modifications. Based on the above, this item is closed.

(Closed) Violation (219/82-05-04):
Station Procedure 124, "System/Equipment Turnover After Modification", did not appear to provide an effective system for ensuring that procedures and drawings had been revised following modifications. A similar finding was also identified in licensee audit Report S-OC-81, for which no corrective action had been taken. The inspector verified that Procedure 124 has been extensively revised to reflect station involvement in plant modification control. In addition, past modification tasks such as drawing and procedure updates have been more adequately defined. Based on the above, this item is closed.

3. Refueling Operations

3.1 Scope

Refueling operations were inspected for compliance to the requirements of Regulatory Guide 1.33-1978 "Quality Assurance Program Requirements (Operation)" and ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants". Additionally, the areas of fuel material control and maintenance of the spent fuel pool were also inspected. Within the scope of the above areas, the following items were inspected:

--Transfer of fuel from the fuel storage pool (FSP) to the core;
--Compliance with technical specification requirements for refueling operations;
--Maintenance of secondary containment integrity;
--Adequacy of staffing for refueling operations;
--Performance of required surveillance operations;

--Testing and inspection of refueling equipment;
--Fuel transfer records;
--Fuel inventories
--Fuel depletion records;
--Control rod depletion records;
--Refueling safety analysis;
--Conformance to refueling procedures;
--Control of fuel storage pool non-refueling activities;
--Maintenance of general housekeeping on the refueling floor; and,
--QA/QC interfaces with refueling operations.

3.2 Document Review

During the inspection the following documents were reviewed:

3.2.1 Documents:

--Oyster Creek Nuclear Generating Station Refueling Certification, Completed April 14, 1984;

--Safety Evaluation 335400-001, Cycle 10 Reload, date September 22, 1983;

--NEDO 24195, General Electric Reload Fuel Application for Oyster Creek, Amendment 6, August 1983;

--Final Fuel Loading Configuration, November 28, 1983;

--Licensee Audit 80-10, "SNM Accountability Audit", performed November 1980;

--Licensee Audit S-OC-81-21, "Fuel Management", performed December 1981 and January 1982;

--QA Monitoring Reports of 1983 defueling activities conducted on March 9, 22, 23 and April 2, 1983; and,

--QA Monitoring Report of 1984 refueling activities conducted on May 1, 1984.

3.2.2 Procedures:

--205.0, Reactor Refueling, Revision 12, December 5, 1983;

--205.5, Core Loading (Refueling), Revision 8, April 14, 1984;

--205.7.1, Control Cell Reloading: To Black and White Revision 2, April 14, 1984;

--205.8, Fuel Assembly Removal/Installation In Core, Revision 2, July 2, 1982;

--205.9, Core/Pool Fuel Transfers, Revision 3, December 19, 1982;

--205.10, Fuel Assembly Removal/Insertion, Revision 2, September 2, 1982;

--205.61, Pre-Outage Refueling Equipment, Revision 1, December 2, 1983;

--119, Housekeeping, Revision 6, July 22, 1982;

--119.3, Tool, Equipment and Material Accountability, Revision 2, December 1, 1983;

--1001.26, Shutdown Margin Demonstration, Revision 4, January 8, 1981;

--1001.27, Shutdown Margin Measurement Test, Revision 9, August 8, 1981; and,

--1002.5, Fuel Pool Material and Inventory Control, Revision 1, January 9, 1984.

3.2.3 Data Reviewed:

--Procedure 205.7.1, Form 1, Special Nuclear Material Move Sheets, Control Cell Reloading/Fuel Move Worksheet-sampling of completed sheets reviewed for fuel movement and control rod insertions between April 6 and April 27, 1984;

--Procedure 1002.4, Figure 1002.43, Documentation Fuel Move Sheet, - documentation of fuel storage pool fuel movements on April 25, 1984;

--Figure 1002.4-3, Documentation Item Control Area (ICA) Transfer Form - documentation of new fuel movements on April 26, 1984;

--Procedure 1001.31, Fuel Storage Verification, data reviewed for new and used fuel annual inventory completed on March 30, 1984;

--NA884001, R08, J3832A, Oyster Creek Fuel Burnout and Isotopic Analysis Report, Dated April 19, 1984;

--Procedure 205.7.1, Control Cell Reloading: To Black and White, Form 2B, Shift Verification of Control Rod and Fuel Assembly Locations and Status of Control Rod Drive Bypass Jumper - a sampling of data reviewed for dates April 15-May 3, 1984; and,

--Tool Accountability Logs - sampling review of miscellaneous log sheets.

3.3 Observation of Refueling Operations

The licensee performed refueling operations on day and swing shifts during this inspection. At the beginning of each shift, the complete status of fuel in the core was reverified before commencing fuel loading operations. Since the core had been completely defueled, the licensee is loading fuel in an alternate ("Black and White") fuel pattern inserting one control rod at a time until all control rods have been fully inserted. Because of an incident which occurred during March 1984, the licensee is using a television monitor as an additional verification of rod latching and unlatching to the refueling crane.

The inspector observed the movement of two fuel assemblies from the FSP to the core on day shift May 1, 1984 and two assemblies on swing shift May 3, 1984. In addition, the inspector observed, on each of the above shifts, the movement of a control rod blade guide from one fuel cell to another.

The following additional operations were observed:

--Communications between the Control Room and Refueling Bridge;

--Shift turnover;

--Maintenance of fuel load status boards on the Refueling Floor and in the Control Room;

--Performance of Control rod insertions; and,

--Tool Control and accountability.

3.4 Fuel Storage Pool Non-Refueling Activities

In addition to the storage of used fuel and the temporary storage of new fuel, the licensee is storing in the FSP, (by hanging on ropes) numerous other radioactive items such as used control rod blades, pool cleanup filters (no longer in use), and stellite balls removed from control rod blades. These items are cluttering up the FSP, and in some instances, preventing verification of fuel numbers for some fuel stored in the FSP.

The licensee has recognized this problem and issued Procedure 1002.5, "Fuel Pool Material and Inventory Control". This procedure requires written permission to store non-fuel items in the FSP or to move an item from one location to another. Additionally, new items added to the FSP must have an identity tag attached. The procedure also identifies permissible and impermissible items for FSP storage.

A contractor, Proto-Power, is working on the third shift to remove items from the FSP and ship them out. Expected completion is October, 1984.

3.5 QA/QC Interfaces

The inspector reviewed QA/QC interfaces with the refueling operations in progress. Although QC personnel are not directly involved with verification of actual refueling operations, they perform these refueling related activities:

--Receipt inspection of new fuel;

--Inspection of fuel channels;

--Inspection of sources;

--Inspection of new control rod blades;

--Inspection of refueling floor cleanliness; and,

--Tool accountability control.

QA has a more direct involvement in refueling operations by performing periodic monitoring of refueling operations. Procedure 205.7.1 requires that QA accomplish the following:

--Periodically verify the statue of tag boards, Kardex file and refueling interlock jumpers;

--Independently verify core loading to the desired black and white pattern; and,

--Verify final core reload.

A QA representative stated that the time frame of "periodically" meant at least once per week. As of this inspection only one QA monitoring had been performed on May 1, 1984. The actual responsibility for continuous verification of core status rests jointly with operations and core engineering personnel. The 1984 Oyster Creek Site Audit Schedule, dated April 2, 1984 indicates that a post-refueling audit is scheduled to be conducted during July 1984. In addition, QA specifically concurred in Procedures 205.5, "Core Reloading (Refueling)", and 205.7.1, "Control Cell Reloading: To Black and White".

3.6 Findings

No violations were identified. Control, documentation, and QA/QC overview of refueling operations were adequate.

4. Management Meetings

The inspection commenced on April 30, 1984. Licensee management was informed of the scope and purpose of the inspection at an entrance interview conducted on May 1, 1984. The findings of the inspection were periodically discussed with licensee representatives during the course of the inspection. An exit interview was conducted on May 4, 1984 (see paragraph 1 for attendees) at which time the findings of the inspection were presented. At no time during this inspection was written material provided to the licensee by the inspector.