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

Report No. 50-219/82-28

Docket No. 50-219

License No. DPR-16 Priority -- Category C

Licensee: GPU Nuclear Corporation

100 Interpace Parkway

Parsippany, N. J. 07054

Facility Name: Oyster Creek Nuclear Generating Station

Inspection at: Forked River, New Jersey

Inspection conducted: November 9-16, 1982

Inspectors: 2. 6. Munice K. E. Plumlee, Radiation Specialist

date signed

Approved by:

M. Shanbaky, Chief, Facilities

1/10/83 date signed

Radiation Protection Section, Radiological Protection Branch

Inspection Summary: Inspection on November 9-16, 1982 (Report No. 50-219/82-28) Areas Inspected: Routine, unannounced safety inspection by a region-based inspector of the radiation safety program, and the preparations for an extended outage, including: outstanding items, licensee audit program, procedures, qualification and training, exposure control, in-plant radiation protection, advance planning and preparation for the outage, instruments and equipment, radioactive effluent and waste systems, transportation, and independent inspection effort. This inspection involved 37 inspector-hours onsite by one region-based NRC inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

- D. Arbach, Radiological Controls Support Manager
- *P. Crosby, Supervisor, Operations Engineering
- *P. Czaya, Licensing Engineer
- P. Fiedler, Vice President and Director, Oyster Creek
- *M. Laggart, Licensing Manager
- B. Leavitt, Deputy Manager, Radiological Controls
- C. Leffler, Engineer, Quality Assurance Modifications and Operations
- D. Miller, Supervisor, Radiological Training
- *C. Tracy, Manager, Quality Assurance Modification and Operations
- *D. Turner, Manager, Radiological Controls
- *J. Sullivan, Jr., Director, Plant Operations

*Denotes presence at the exit interview, on November 16, 1982.

2. Licensee Actions on Previously Identified Items

2.1 Bulletins and Circulars

(Closed) IE Bulletin 80-10 (80-BU-10): Control and monitoring of potential radioactive material release paths through normally nonradioactive systems. The inspector verified by interviews, document reviews, and direct observation that the following were provided for completing action under Bulletin 80-10:

Sanitary sewer monitoring with trouble and radiation alarms, and discharge controls Periodic sewage sampling and analyses Drain system sampling

No violations were identified.

(Closed) IE Circular 79-21 (79-CI-21): Prevention of unplanned release of radioactive materials. The inspector verified by interviews, document reviews, and direct observation, that the licensee is carrying out the recommendations of the Circular to review and upgrade procedures and systems that transfer, process, or store radioactive materials.

No violations were identified.

(Closed) IE Circular 80-18 (80-CI-18): Safety evaluations of radioactive system modifications, as required by 10 CFR 50.59. The licensee administrative procedures implemented this requirement. The inspector interviewed personnel and reviewed five Independent Safety Review Group safety evaluations of radwaste building modifications, to verify the required evaluations were made. The inspector also toured the new and the old radwaste buildings to examine the modifications. No unreviewed safety questions were identified.

(Closed) IE Circular 81-09 (81-Ci-09): Control of containment effluents that bypass the radioactivity monitors. The Radiological Environmental Technical Specifications (RETS) safety evaluation will address adequate control. A recent licensee evaluation of the Reactor Building Closed Cooling Water System is an example. Previous inspection effort was described in Report No. 81-15.

No unreviewed safety questions were identified.

2.2 Other Outstanding Items

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(Closed) Violation (79-18-06): Training plan implementation. The imspector verified by interviews; reviews of lesson plans, attendance rosters, and examination scores; and direct observation of training activities that the licensee's proposed training/retraining program is being implemented in accordance with the licensee's letter dated August 31, 1982.

(Closed) Inspector Follow Item (79-23-03): Verify licensee review of anomalous filter pressure differential flow rate data, recorded during standby gas treatment system (SGTS) tests. The inspector interviewed the individual maintaining this information, and also reviewed the surveillance test records of nine satisfactory ten-hour surveillance tests conducted May through September, 1982. (paragraph 10.1)

No violations of regulatory requirements were identified.

(Closed) Inspector Follow Item (79-23-16): Review of new radwaste building ventilation discharge monitoring, ventilation isolation capability, and ground level release history. The ventilation flow control valve is being relocated and the isolation capability will be verified. The previous ground level releases have not exceeded a few microcuries during any calendar quarter according to semiannual effluent release reports. There were no ground level releases since licensee installed a vent duct to the plant stack. The plant stack is monitored.

The inspector toured the new radwaste building and verified the ventilation balance and air flow direction on all levels of the building. No violations were identified.

(Closed) Unresolved item (80-28-05): Licensee evaluation and control of airborne radioactive materials caused by travelling incore probe (TIP) operation. To better control airborne activity, the licensee sealed the TIP cabinets, vented the cabinets through filters, and sealed the TIP room penetrations. Further TIP improvements are scheduled during the coming outage, and will be followed up.

(Closed) Violation (80-37-01): Failed to provide strong tight shipping containers, required by 10 CFR 71.5(a) and 4S CFR 173.392(c)(1), for two packages of a LSA radioactive material shipment. The inspector reviewed the shipping procedures and the records of shipments for the months of September and October 1982; observed the handling of empty containers, and container filling, storage, and loading. The inspector also observed one LSA exclusive use shipment made during the inspection. These activities were controlled in accordance with the licensee letter dated July 8, 1981.

No violations were identified.

(Closed) Violation (80-37-02): Failed to disclose in the shipping papers, as required by 49 CFR 173.203, the presence of liquid in two containers. The inspector reviewed recent shipping records and observed the packaging and shipping of radioactive materials. The inspector verified that the corrective actions as specified in the licensee's letter dated July 8, 1981, were implemented.

No violations were identified.

(Closed) Unresolved Item (81-03-04): Evaluation of a liquid release through the new radwaste building wall. The licensee controlled the source by decontamination, waterproofing, and use of plastic sheet and tape. Surveillance includes surveys and inspections of the facility, and soil and well-point sampling. Material accountability is maintained during radwaste operations and storage. The RETS safety evaluation addresses this facility. The inspector reviewed the documentation, and toured the facility to examine it's status. No violations were identified.

(Closed) Inspector Follow Item (81-15-01): Review of sampling and analyses of the sanitary sewer and the 30-in. diameter drain system. These systems are included in the RETS safety evaluation. The inspector reviewed the results of sampling and analyses. No violations were identified.

(Closed) Inspector Follow Item (81-15-92): Review of updated drawings. The inspector verified that modification proposals identify and itemize the changes needed in drawings. Review of five modification proposals did not identify any violations.

3. Licensee Audit Program

The inspector determined by interviews, and by reviews of the minutes and reports of the following activities. that frequent audits, surveillance checks, and supervisory reviews were conducted of radiation protection and radwaste transportation activities.

Annual audits, by Institute of Nuclear Power Operations (INPO) Semiannual audits, by General Office Review Board (GORB) Semiannual audits of deficiency corrections, by Independent Safety Review Group (ISRG)

Periodic reviews, by Plant Operations Review Committee (PORC) Scheduled audits, surveillance checks, and inspections, by the Quality Assurance/Quality Control organization

Daily audits/surveillance tours, including monthly and quarterly summaries of findings made by the ALARA team

Daily tour/supervisor oversight, by radiation protection field operations supervisors or designated individuals

No violations were identified.

4. Procedures

The licensee administrative procedures require periodic procedure reviews. Observation of the review dates did not identify any procedures overdue for review.

The licensee stated no changes were needed in the radiation protection program, or in the routine procedures, to accommodate the needs of the outage. The nonroutine procedures to support this outage were under development (paragraph 6.1).

Observation of adherence to procedures during tours of the facility did not identify any violations.

5. Qualification and Training

5.1 Plant Radiation Protection Personnel Training

The licensee has developed a radiation protection training program. The technician qualification and training program is approved and implemented. Additional details of supervisory personnel qualification and training are still being defined.

The inspector reviewed the qualification and training records of ten technicians and five supervisors to verify that the training program was being conducted in accordance with the program description. Appropriate supervisor training appeared to be provided.

to violations were identified.

5.2 Contractor Radiation Protection Personnel

The inspector reviewed the training records of ten contractor technicians, and interviewed the individuals operating a whole body counter and a respirator fit test booth to verify licensee compliance with the training program and procedures.

No violations were identified.

6. Exposure Control

6.1 ALARA Program

The inspector observed that the licensee provides ALARA reviews of all radiation work permits (RWPs) expected to require 1) more than one man-rem of exposure; 2) respirator use; or, 3) entry into any potentially hazardous area. Additionally, members of the eight member radiological engineering group conducted ALARA reviews of each major job planned during the outage. The inspector noted the reviews included previous task experience, equipment and area surveys, photographs, use of mockups and spare parts for job rehearsals, and worker training and qualification. Daily ALARA inspections were being conducted of work areas; and personnel and job exposures, and identified deficiencies were systematically reviewed by the ALARA team.

Weekly, monthly and quarterly summaries were being maintained of the following information:

Radiation Reduction Program

Contaminated area status Airborne radioactive materials (respirator) area status High radiation area status Radwaste control status

Man-rem Information Task Accumulation

Unusual Events, Deficiencies and Problems

ALARA Group Activities

Ventilation and Filtration System Maintenance

Protective Clothing Use

Worker Comfort Relative to Use of Protective Devices

Remote-operated Equipment Usage and Experience

Decontamination and Shielding Activities

Communication Effectiveness

No violations were identified.

6.2 Personnel Dosimetry Practices

The inspector reviewed the licensee's dosimetry practices to verify compliance with the requirements of 10 CFR 20.101, "Radiation dose standards. . .; 10 CFR 20.102, "Determination of prior dose"; 10 CFR 20.202, "Personnel Monitoring"; 10 CFR 20.401, "Records of surveys, radiation monitoring, and disposal; 10 CFR 20.408, "Reports of personnel monitoring on termination. . ."; 10 CFR 20.409, "Notifications and reports to individuals"; and 10 CFR 19.13, "Notification and reports to individuals." This review included:

Tours of the reactor building, radwaste facilities, turbine building, and the protected area grounds to evaluate the dosimetry practices on several modifications, maintenance activities, and waste handling operations;

Examination of 10 RWPs to review the instructions for special dosimetry;

Examination of the dosimetry records to identify any unusual personnel exposures;

Examination of the record files of ten individuals to verify that their Form NRC-4s were completed;

Examination of the record files of ten previously terminated individuals to verify that dosimetry reports were routinely provided to the terminated workers and to the NRC.

No violations were identified.

6.3 Internal Exposure Limits

Observation of working conditions during this inspection, and review and records of work permits, air samples, contamination surveys, nasal swipes, skin contamination, and whole body counts did not identify any exposure to airborne radioactive materials in excess of 10 CFR 20.103 limits.

6.4 Engineering Controls

The inspector observed during plant tours, and by review of ALARA activities, that exposures to airborne radioactive materials were controlled in compliance with 10 CFR 20.102(b). The licensee's controls included decontamination, use of plastic covers and tents to confine contamination, and use of controlled ventilation systems to limit airborne radioactive materials concentrations.

No violations were identified.

6.5 Respiratory Protection Practices

The inspector examined the actual practices, and reviewed procedures and records, to verify that the use of respirators was in compliance with 10 CFR 20.103 and 10 CFR 20, Appendix A. The following were reviewed:

Air sampling and hazard evaluation; Determination of uptakes, internal exposures, and any necessary followup; Selection of approved respiratory protection equipment; Physical capability determination prior to respirator use; Fitting and fit-testing of respirator users; Control of respirator issue; Proper wearing of respirators; Collection, cleaning and disinfection, maintenance, and storage of respirators after use; Respirable air supply and air quality; Prohibition of the use of respirators over glasses, beards, or articles of clothing that could interfere with the respirator seal; and Prohibition of unapproved uses of respirators.

No violations were identified.

7. In-plant Radiation Protection

7.1 Surveys

In order to determine compliance with the requirements of 10 CFR 20.201 "Surveys," the inspector reviewed the current air sample and area survey records, and conducted an independent survey of parts of the reactor building, turbine building, new and old radwaste buildings, and the protected area grounds.

The inspector observed that the posted signs and indicated radiation intensities were acceptable, and "hot spots" were identified.

The licensee required a daily survey of areas prior to work under RWPs. The survey schedules for other areas appeared acceptable.

No inadequate surveys were identified.

7.2 Posting and Control of Radiation Areas, Airborra Radioactivity Areas, and Contaminated Areas

The inspector toured the facility to verify compliance with the recuirements of 10 CFR 20.203, "Caution signs, labels, signals, and controls," and TS 6.13, "High Radiation Areas." This tour involved confirmatory surveys to verify the adequacy of the container labels, posted information and barricades, checks of ten locked doors to High Radiation Areas, and review of the facility radiation monitors and ventilation monitors having remote readouts in the control room.

No violations were identified.

7.3 Radioactive and Contaminated Material Control

During the tours described above, the inspector verified by surveys and observation that radioactive and contaminated material was collected in properly labelied containers, and used protective clothing, respirators, tools, parts and radioactive waste were routinely collected and routed to the appropriate disposition.

The inspector also verified that the radioactive waste reduction program was implemented, and noncontaminated waste was maintained in separate

receptacles from contaminated materials. All materials were routinely surveyed to verify proper disposition upon release from the controlled areas.

The inspector observed the preparations for one shipment of radioactive waste to a buril site, and reviewed the QA records and shipping records.

No violations were identified.

8. Advance Planning and Preparations for the Outage

8.1 Radiation Protection Staff

The actual radiation protection staff consisted of 16 supervisory, 6 administrative or clerical, and about 76 technician personnel. Of these, 21 were contractor employees. Two group supervisor vacancies existed in the field operations area.

Eased on the projected work load, 14 more contractor technicians were to report by mid-December, to assist with outage preparations, and another 120 contractor personnel were to report by the start of the outage.

8.2 Special Training and Equipment

The licensee reviewed the need for special training and equipment during the ALARA review of each job planned during the outage. The accessible work areas were being staged and modification projects were started, as feasible, prior to the outage (example, work on the outside of the torus).

Use of remote operated equipment was planned to reduce personnel exposures. The ALARA reviews also identified those jobs requiring mockup training, special tools, and unusual shielding or decontamination.

No violations were identified.

8.3 Routine supplies and equipment

The licensee has made arrangements for protective clothing laundry services, dosimetry equipment, respirators, air samplers, and survey equipment to support the outage based on anticipated need. Consummable materials are routinely stocked.

No violations were identified.

9. Instruments and Equipment

The licensee stated the instrument and equipment needs were forecast and the necessary equipment and services were provided. The radiation protection groups performing instrument calibration and maintenance included a supervisor and five technicians. A second whole body counter was leased. Respirators were stocked and a new cleaning facility was being obtained.

Observation during facility tours did not identify any instruments overdue for calibration, or any equipment shortages

No violations were identified.

10. Radi active Effluent and Waste Systems

10.1 Ventilation Systems Status

The inspector examined the ventilation equipment and also verified the ventilation balance in the new radwaste building. No failed belts, cracks, pentrations, or improper ventilation balances were identified. The inspector observed that the charcoal filter housings contained drains, but the drain pipe stubs were plugged to prevent bypass.

The inspector reviewed the filter efficiency test results, required by TS 4.5 K for the period June, 1981, through September, 1982. The indicated filter efficiencies were acceptable.

However, the procedures did not clearly state acceptance criteria for the ventilation flow rates during filter efficiency testing. As an example, the SGTS is required by TS 4.5 J to maintain a specified negative pressure during secondary containment leak rate testing, at no greater than 4,000 cfm. The SGTS HEPA filter efficiency test procedure did not specify any acceptable flow rate during testing. The charcoal filter efficiency test procedure (No. 651.3.003) indicated a nominal basis of 2,700 cfm. The two most recent tests were at 2,400 cfm (March 3, 1982) and 3,000 cfm (September 23, 1982).

The inspector noted that ANSI N510-1975, testing of Nuclear Air-Cleaning Systems, requires in section 8.3.4 the system is to be tested, if possible, at the design flow rate. The inspector identified the lack of procedural acceptance criteria for flow rate during filter efficiency testing, as an unresolved item. (82-28-01).

The licensee stated, during the exit interview, that the test procedures will be reviewed to verify the criteria that assure valid results.

10.2 Radioactive Effluent and Waste Control

The inspector observed the ventilation, liquid radwaste discharge, and system radiation monitor indicators, and reviewed recent records, to verify proper control of radioactive effluents and discharges. The inspector noted that the 1981 and first-half 1982 semiannual radioactive effluent release reports did not identify any releases in excess of regulatory limits.

No violations were identified.

11. Transportation Activities

The inspector reviewed recent records of the receipt and shipment of radioactive materials and observed the preparation of a shipment to verify compliance with the NRC and DOT regulations. The inspector also observed the handling and storage of empty and filled shipping containers to verify proper storage, labeling, surveys, and closures.

The procedures, shipping records, and QC and audit reports indicated the licensee maintained strict control of transportation activities.

No violations were identified.

12. Independent Inspection Effort

Independent inspection effort was documented in paragraphs 7 and 11 of this report.

13. Exit Interview

The inspector met with the licensee representatives, denoted in paragraph 1, at the conclusion of the inspection.

The inspection findings were reviewed, as documented above.