July 25, 2000

Mr. Sander Levin
Acting Vice President
GPU Nuclear, Incorporated
Oyster Creek Nuclear Generating Station
P.O. Box 388
Forked River, New Jersey 08731

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - NRC INSPECTION REPORT 05000219/2000-005

Dear Mr. Levin:

On July 1, 2000, the NRC completed an inspection at your Oyster Creek reactor facility. The enclosed report presents the results of that inspection. The results of this inspection were discussed on July 7, 2000, with you and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The inspectors identified one finding which was a violation of NRC requirements related to the revision and implementation of procedures for the standby gas treatment system. This finding was evaluated using the significance determination process and was determined to be Green (very low safety significance). This finding has been entered into your corrective action program and is discussed in the subject inspection report. The finding was determined to involve a violation of NRC requirements, but because of its low safety significance, the violation is non-cited. If you contest the violation or severity level of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region 1; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Oyster Creek facility.

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We appreciate your cooperation. Please contact me at 610 337-5146 if you have any questions regarding this letter.

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch 7
Division of Reactor Projects

Docket No.: 05000219
License No.: DPR-16

Enclosure: NRC Inspection Report No. 05000219/2000-005

cc w/encl:
G. Busch, Manager, Nuclear Safety & Licensing
M. Laggart, Manager, Licensing and Vendor Audits
State of New Jersey

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U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No.	05000219/2000-005
Docket No.	05000219
License No.	DPR-16
Licensee:	GPU Nuclear, Incorporated 1 Upper Pond Road Parsippany, New Jersey 07054
Facility Name:	Oyster Creek Nuclear Generating Station
Location:	Forked River, New Jersey
Inspection Period:	May 14, 2000 - July 1 , 2000
Inspectors:	Laura A. Dudes, Senior Resident Inspector Thomas R. Hipschman, Resident Inspector
Approved By:	John F. Rogge, Chief Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000219-2000-005; on 5/14 -7/1/2000; Oyster Creek Nuclear Generating Station; Maintenance Risk Assessment and Emergent Work Evaluation

The report covered a seven-week period of resident inspection. The inspection identified one green issue which was a noncited violation. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (SDP) in Inspection Manual 0609 (see Attachment 1).

Cornerstone: Mitigating Systems

- **GREEN.** The licensee identified that the charcoal absorption efficiency in standby gas treatment system (SGTS) 1 did not meet the requirements of ASTM D3803-1989. This issue was considered to be Green (very low safety significance) using the significance determination process (SDP) phase 1 evaluation, because the system was still capable of performing the safety function using the alternate train (SGTS 2). The failure to properly revise and implement a surveillance procedure was determined to be a non-cited violation. **(NCV 50-219/2000-005-01)** (Section 1R13)

Cross-cutting Issues: Human Performance

- NO COLOR. Poor communications, procedural adherence and work control practices resulted in significant personnel errors during maintenance activities on safety related equipment. These errors include, one instance of a failure to properly remove an installed temporary jumper on a hydraulic control unit prior to returning the unit to service and one instance of performing electrical troubleshooting activities on an inservice pump breaker that can receive an automatic start signal. While the risk of these individual events was low, the number of maintenance related events this inspection period indicated a problem with work control practices, communications and the quality of review regarding completed work activities. (Section 4OA2).

Report Details

Summary of Plant Status:

Oyster Creek was at or near full power at the beginning of the inspection period. On June 23, reactor power was reduced to approximately 30 percent in order to remove the turbine generator from the grid to facilitate main transformer cleaning. On June 25, Oyster Creek returned to full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1RO4 Equipment Alignment

.1 Core Spray System

a. Inspection Scope

The inspector conducted a partial walkdown of the core spray system 2. This system was chosen because core spray system 1 was out of service for scheduled maintenance and core spray is an important emergency core cooling system.

The inspector compared actual valve and circuit breaker positions against the system operating procedures. The inspector also reviewed the corrective action process (CAP) database for identification and resolution of significant issues affecting core spray system 2.

b. Issues and Findings

There were no findings identified.

.2 Control Rod Drive Pump 'B'

a. Inspection Scope

On May 15, the inspector conducted a partial walkdown of the 'B' control rod drive (CRD) system. The 'A' CRD pump was out of service for maintenance. The inspector verified the actual system alignment using the system one line drawings and the system operating procedure valve and instrument lineup procedure, 302.1, "Control Rod Drive Hydraulic System, Attachment 302.1-2 checkoff list." The inspector also verified that the pump support systems were aligned appropriately.

b. Issues and Findings

There were no findings identified.

1RO5 Fire Protection

a. Inspection Scope

The inspectors performed fire protection walkdowns in the following areas:

- A/B Battery Room
- 4160 Volt Switchgear Carbon Dioxide System
- 480 Volt Switchgear Halon Suppression System
- Cable Spreading Rooms
- Portable Extinguishing Equipment in Reactor Building

The inspectors verified that the fire suppression systems in these areas appeared to be lined up correctly and that the licensee had proper measures in place to control the combustibles in the areas.

b. Issues and Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

.1 Instrument Air System failures

a. Inspection Scope

The inspector reviewed the performance goals, maintenance activities and corrective actions plans for the instrument air system. During this inspection period, a repeat failure of an air compressor and the adverse impact on the feedwater and reactor water cleanup system due to several instrument air line failures caused the system to be elevated to Maintenance Rule (MR) category a(1) status. The inspector reviewed the corrective action plan and performance goals developed to return the system to MR category a(2) status.

b. Issues and Findings

There were no findings identified.

.2 Containment Spray System

a. Inspection Scope

The inspector reviewed the performance goals, monitoring criteria and several corrective action documents associated with the containment spray system.

b. Issues and Findings

There were no findings identified.

.3 Standby Gas Treatment System

a. Inspection Scope

The inspector reviewed the standby gas treatment system (SGTS) to assess GPUN's compliance with the NRC Maintenance Rule for this system. The system has been in Maintenance Rule category a(2), acceptable performance. The inspector reviewed corrective action reports against the associated system performance criteria.

b. Issues and Findings

There were no findings identified.

.4 480 volt Distribution System

a. Inspection Scope

The inspector reviewed the performance criteria, corrective actions and monitoring program for compliance with the NRC Maintenance Rule. This system has been designated MR category a(1) due to maintenance preventable functional failures associated with a breaker motor cutout switch. The inspector reviewed the corrective actions including the enhanced maintenance training and breaker preventive maintenance procedural changes.

b. Issues and Findings

There were no findings identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

.1 Emergent Work on the Standby Gas Treatment System

a. Inspection Scope

On June 1, the system engineer discovered the charcoal absorption efficiency in standby gas treatment system (SGTS) 1 did not meet the requirements of American Society for Testing and Materials D3803-1989. The inspector this emergent work activity with regard to reviewed technical specifications, regulatory requirements and commitments, and testing of the subsequent replacement charcoal bed filter.

b. Issues and Findings

On June 1, the system engineer discovered that the charcoal absorption efficiency in standby gas treatment system (SGTS) 1 did not meet the requirements of ASTM D3803-1989. Although current technical specifications require testing in accordance with ASTM D3803-1979, the licensee committed to adhering to ASTM D3803-1989 in a letter to the NRC dated December 1, 1999. ASTM D3803-1979 requires greater than or equal to 90 percent radioactive methyl iodine removal efficiency. ASTM D3803-1989 requires 95 percent efficiency. On December 13, 1999, maintenance technicians removed a charcoal test canister from SGTS 1 for testing. On January 6, 2000, the sample was analyzed by an independent testing facility. The test facility determined that the charcoal efficiency was 93.69 percent. On February 14, a chemistry supervisor reviewed the test results and determined that they were acceptable. However, due to an incomplete procedure revision, the supervisor was unable to determine that the sample did not meet the requirements of ASTM D3803-1989. Procedure 651.1.006, "Standby Gas Treatment System - Charcoal Filter Radioactive Methyl Iodine Removal Efficiency Test," was revised on September 29, 1999, to incorporate the new test standard ASTM D3803-1989 requirement. However, the acceptance criterion in the procedure was not changed from 90 to 95 percent. The licensee's failure to maintain this procedure prevented the chemistry supervisor from promptly identifying this condition. On June 2, maintenance technicians replaced the SGTS 1 charcoal. Operations performed satisfactory testing and returned the system to service.

This issue was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation, because the system was still capable of performing the safety function using the alternate train (SGTS 2). Nonetheless, the licensee's failure to ensure that Procedure 651.1.006, "Standby Gas Treatment System - Charcoal Filter Radioactive Methyl Iodine Removal Efficiency Test," was properly revised and implemented is a violation of Technical Specification 6.8.1, which requires that written procedures shall be established, implemented and maintained. However, this violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000. The licensee documented this issue in CAP 2000-0713. **(NCV 50-219/2000-005-01)**

.2 Emergent Work on the Instrument Air System.

a. Inspection Scope

On May 26, 2000, the instrument air system was in operation with only one of three air compressors operable. The inspector reviewed plans to install a temporary modification (Section 1R23) and observed maintenance activities to install the temporary modification. In addition, the inspector reviewed the on line maintenance schedule for the duration the two air compressors were out of service to verify that there were no activities that may compound the overall risk associated with the single air compressor in service.

b. Issues and Findings

There were no findings identified.

.3 Main Transformer Cleaning

a. Inspection Scope

On June 23, 2000, the licensee commenced a power reduction in order to remove the main turbine generator from service and perform cleaning on the M1A transformer. The inspector reviewed the potential risk of this activity against other activities planned for the station. The inspector also reviewed the work packages and boundary tag isolations for this evolution.

b. Issues and Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability determinations associated with the following plant equipment challenges:

- Heat Balance Flow Discrepancies
- Control Room Heating and Ventilation Dose Calculations

b. Issues and Findings

There were no findings identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspector reviewed and observed portions of the following post maintenance testing:

- Hydraulic Control Unit testing following maintenance.
- "A" Control Rod Drive Pump testing after maintenance and troubleshooting
- Spent Fuel Rack Bearing Pad Installation
- Reactor Feedwater Loop Flow Calibration

b. Issues and Findings

There were no findings identified associated with the quality of the post maintenance tests; however, human performance errors associated with the Hydraulic Control Unit (HCU) post maintenance activities and the control rod drive pump troubleshooting activities were observed (Section 4OA2).

1R22 Surveillance Testing

.1 Reactor Feedwater Flow Indication Test

a. Inspection Scope

During the week of June 19, 2000, the inspector reviewed the feedwater flow indication calibration test procedure and observed the performance of the test on June 23, 2000. The review included verification that the procedure could be conducted as written, and that the operators and maintenance technicians properly performed the procedure.

b. Issues and Findings

There were no findings identified.

.2 Electromatic Relief Valve Pressure Sensor Surveillance Test

a. Inspection Scope

On June 26, 2000, the inspector reviewed the surveillance testing conducted to demonstrate that the electromatic relief valves (EMRV) met the safety setting requirements of TS 2.3.D. This inspection activity included a review of GPUN surveillance procedure 602.3.004, "Electromatic Relief Valve Pressure Sensor Test and Calibration," and CAP reports generated during this and previous performances of the EMRV testing. Additionally, the inspector verified the "as found" and "as left" setpoints for the EMRV pressure sensor.

b. Issues and Findings

There were no findings identified.

.3 Core Spray Isolation Valve Actuation Test

a. Inspection Scope

On June 30, 2000, the inspector reviewed and partially observed surveillance test 610.3.006, "Core Spray Isolation Valve Actuation Test and Calibration." The inspector verified that the test equipment had been properly calibrated and that the equipment tolerances were accounted for in the test procedure. In addition, the inspector verified the "as found" and "as left" setpoints for the isolation valve pressure switches.

b. Issues and Findings

There were no findings identified.

.4 Grid Undervoltage Channel Functional Test

a. Inspection Scope

On May 17, 2000, the inspector reviewed and observed surveillance test 632.2.002, "Grid Undervoltage Channel Functional Test." The inspector verified that the acceptance criteria of the surveillance test was in accordance with the functional requirements of the emergency busses as well as the design documents for the system.

b. Issues and Findings

There were no findings identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspector reviewed the installed temporary plant modification to the instrument air system. Specifically, the inspector reviewed the installation work package and verified the temporary modification was installed per the design.

b. Issues and Findings

There were no findings identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification

.1 Emergency Response Organization Drill Participation Performance Indicator Verification

a. Inspection Scope

The inspector reviewed the performance indicator for *Emergency Response Organization Drill Participation*. Specifically, the inspector reviewed the training records for those individuals credited for participation as well as the successful completion of the individuals emergency response role. The review included Performance indicator data submitted from the 2nd quarter of 1999 through the 1st quarter of 2000.

b. Issues and Findings

The were no findings identified

.2 Residual Heat Removal Performance Indicator Verification

a. Inspection Scope

The inspector reviewed GPUN's programs for gathering and submitting data for the *Residual Heat Removal (RHR)* Performance Indicator. The review included GPUN's operating logs, tracking and trending reports and corrective action reports for the Performance Indicator data submitted from the 2nd quarter of 1999 through the 1st quarter of 2000.

b. Issues and Findings

Following the inspector's request for specific performance data, the system engineer reviewed the data and discovered that the first quarter of year 2000 train data was transposed. For example, historical data for RHR train 2 normally reports data for the 'B' shutdown cooling system. However, the RHR train 2 first quarter 2000 data contained data from the containment spray/ESW system 2. Although several train's individual performance indicators for first quarter 2000 were reported for the wrong train, the overall performance indicator value was not affected, because it is an average for the 5 trains. The licensee documented this issue in CAP 2000-0818, and plans to submit the corrected data with the second quarter 2000 performance indicators. Additionally, the licensee plans to review all performance indicators to ensure their accuracy.

4OA2 Cross-cutting Issues

Human Performance Problems

a. Inspection Scope

The inspector reviewed two safety related maintenance activities that exhibited poor work practices and communications.

b. Issues and Findings

The inspector noted that poor communications, procedural adherence and work control practices resulted in errors during maintenance this period. (Section 1R19) Specifically, after completing maintenance on a hydraulic control unit, workers failed to remove an installed temporary jumper prior to returning the unit to an operable status (CAP 2000-0701). Also, during troubleshooting activities for a control rod drive pump breaker, poor communications between operators and maintenance technicians led to two workers improperly meggaring a breaker that was not removed from service and is designed to automatically close under some plant conditions (CAP 2000-0653).

No color was assigned to this issue due to the low safety significance of the individual issues; however, the number of maintenance related events this inspection period indicated a recurring problem with work control practices, communications and the quality of review regarding completed work activities. Previous NRC inspection reports have documented human performance as a continuing concern at Oyster Creek.

4OA6 Meetings

Exit Meeting Summary

On July 7, 2000, the resident inspectors presented the inspection results to Mr. Sander Levin and other members of licensee management. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee (in alphabetical order)

G. Busch, Manager, Nuclear Safety & Licensing
R. Ewart, Site Security Manager
S. Levin, Acting Vice President
D. McMillan, Director, Equipment Reliability
K. Mulligan, Plant Operations Director
J. Perry, Plant Maintenance Director
D. Slear, Director, Configuration Control
R. Tilton, Manager, Assessment
C. Wilson, Senior Operations Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

NCV 05000219/2000-005-01 Failure to Properly Revise and Implement Changes to Standby Gas Treatment System Procedures. (IR13)

LIST OF ACRONYMS USED

AC	Alternating Current
APRM	Average Power Range Monitor
ASTM	American Society for Testing and Materials
CAP	Corrective Action Process
CFR	Code of Federal Regulations
CGD	Commercial Grade Dedication
CRD	Control Rod Drive
DC	Direct Current
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
EMRV	Electromatic Relief Valve
ESW	Emergency Service Water
GPUN	General Public Utilities (GPU) Nuclear
HCU	Hydraulic Control Unit
HCV	Hydraulic Control Valve
HVAC	Heating, Ventilation and Air Conditioning
IST	Inservice Test
JO	Job Order
LPRM	Local Power Range Monitor
MOV	Motor-Operated Valve
MR	Maintenance Rule
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OCNGS	Oyster Creek Nuclear Generating Station
PDR	Public Document Room
RCA	Radiologically Controlled Area
RHR	Residual Heat Removal
RP&C	Radiological Protection and Chemistry
RPS	Reactor Protection Systems
RWP	Radiation Work Permit
SCR	Setpoint Change Request
SDP	Significance Determination Process
SE	Safety Evaluations
SGTS	Standby Gas Treatment System
TS	Technical Specification

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety
- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety
- Occupational
- Public

Safeguards
- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.