U. S. Nuclear Regulatory Commission Region I

Docket/Report:	50-219/95-20
Licenses:	DPR-16
Licensee:	GPU Nuclear Corporation P.O. Box 388 Forked River, New Jersey 08731
Facility Name:	Oyster Creek Nuclear Generating Station (OCNGS)
Dates:	November 1 through November 2, 1995
Inspectors:	Jon Palat 12/20195 L. Eckert, Radiation Specialist R. DePriest, Reactor Engineer F. Laughlin, Emergency Preparedness Specialist J. Lusher, Emergency Preparedness Specialist N. McNamara, Emergency Preparedness Specialist S. Pindale, Resident Inspector D. Silk, Senior Emergency Preparedness Specialist
Approved:	R. Keimig, Chief, Emergency Preparedness and Safeguards Branch, Division of Reactor Safety

SCOPE: Announced inspection of the biennial, full-participation emergency preparedness exercise.

RESULTS: Overall, the onsite response during this exercise was good. No particular exercise strengths or weaknesses were identified. The NRC inspection team considered the licensee's critique to be good and the issues to be well prioritized. A violation was identified involving emergency response facility surveillances which were not conducted in accordance with the governing procedure (See Section 12.0 and 13.0).

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1.0 PERSONS CONTACTED

1.1 Licensee Personnel

J. Applegate, Nuclear Safety Assessor J. Barton, Vice President and Director, OCNGS J. Bontempo, Lead Emergency Planner *# T. Blount, Emergency Preparedness Manager *# G. Busch, Licensing Manager *# W. Cooper, Radiological Engineering Manager # B. DeMerchant, Licensing Engineer *# M. Douches, Nuclear Safety Assessor # R. Ewart, Security Manager # P. Hays, EP Planner # J. Hildebrand, Maintenance Director # S. Levin, Operations and Maintenance Director # M. Roche, Vice President, OCNGS *# P. Scallon, Safety Review Manager # R. Shaw, Radiological Controls and Safety Director # M. Slobodien, Director, Radiological Health and Safety *# A. Smith, EP Planner # D. VanNortwick, EP Planner *

The inspectors also interviewed and observed other licensee personnel.

1.2 NRC Personnel

- * L. Briggs, Senior Resident Inspector
- *# S. Pindale, Resident Inspector
- * Indicates those who attended the November 1, 1995 entrance meeting
- # Indicates those who attended the November 2, 1995 exit meeting

2.0 SCENARIO PLANNING

The exercise objectives and scenario were submitted to the NRC in a timely manner. The objectives and the scenario were reviewed by the NRC, and the final scenario was found to test the major portions of the emergency plan (E-Plan) and implementing procedures (EPIPs) adequately.

On November 1, 1995, the NRC inspection team attended a licensee briefing on the scenario. The licensee stated that certain emergency response activities would be simulated and that controllers would intercede in exercise activities at appropriate times to meet certain exercise objectives.

3.0 ACTIVITIES OBSERVED

The NRC inspection team observed the activation and augmentation of the Emergency Response Facilities (ERFs) and the actions of the Emergency Response Organization (ERO) staff. The following activities were observed:

- 1. Selection and use of control room procedures.
- 2. Detection, classification, and assessment of scenario events.
- 3. Direction and coordination of emergency response.
- 4. Notification of licensee personnel and off-site agencies.
- 5. Communications/information flow and recordkeeping.
- 6. Assessment and projection of off-site radiological doses.
- 7. Issuance of Protective Action Recommendations (PARs).
- 8. Provisions for in-plant radiation protection.
- 9. Provisions for communicating information to the public.
- 10. Accident analysis and mitigation.
- 11. Accountability of personnel.
- 12. Post-exercise critique by the licensee.

4.0 EXERCISE FINDING CLASSIFICATIONS

Inspection findings are classified, where appropriate, as follows:

Exercise Strength: a strong positive indicator of the licensee's ability to cope with abnormal plant conditions and implement the E-Plan.

Exercise Weakness: less than effective E-Plan implementation that did not, alone, constitute an overall response inadequacy.

5.0 GENERAL EXERCISE OBSERVATIONS

5.1 Safety Focus

The vice president, OCNGS, observed portions of the exercise at all response facilities and attended the more important post-exercise meetings. The NRC exit meeting was well attended by licensee station management. These factors were considered by the team to be examples of strong senior/station management involvement in emergency preparedness (EP).

5.2 Site Area Emergency (SAE) Declaration

At 5:22 p.m., the control rods failed to insert on a scram signal. At 5:25 p.m., the Simulator Control Room (SCR) staff initiated boron injection to shutdown the reactor. According to the scenario, a SAE was expected to have been declared around 6:00 p.m., based on the EAL related to boron injection without a reduction in reactivity. At 6:09 p.m., SCR staff questioned the ineffectiveness of the boron as the reactor was still at power. At 6:29 p.m., the SCR staff discussed a slight reactor power increase. In discussion with the Technical Support Center (TSC) at about 6:40 p.m., the SCR staff was informed that reactor power was responding as expected.

The licensee eventually declared an SAE at about 7:04 p.m., in accordance with the EAL related to torus temperature with the reactor maintaining power after a scram.

The SCR and TSC staff did not realize that boron injection had failed to shutdown the reactor and, therefore, did not declare the SAE based on that

failure. A simulator modeling discrepancy masked a break in the boron injection line (which prevented the borated water from reaching the reactor vessel).

This matter was characterized by the licensee as an area for improvement during their critique. The failure to realize the ineffectiveness of the boron injection will be reviewed further by the NRC (IFI 50-219/95-20-01).

5.3 Licensee Objectives Not Demonstrated

Optional Objective #2, "Demonstrate the capability of the Fire Brigade and local fire department to respond to emergency conditions," and optional Objective #5, "Demonstrate the ability of security personnel to provide prompt access for off-site emergency equipment and personnel," were not demonstrated because the local fire department did not respond to the exercise as expected. This was due to a misunderstanding by the police department that received the call. Licensee emergency preparedness management stated that another fire brigade response drill necessitating local fire department support would be conducted so that the fire protection plan requirement would be satisfied before the end of calendar year 1995.

6.0 SIMULATOR CONTROL ROOM (SCR)

The SCR staff was quick to identify off-normal conditions and responded immediately with appropriate mitigative action. Good team work was noted. Good communications between the SCR staff and the other emergency response facilities were noted.

The SCR staff promptly recognized the emergency actical level (EAL) criteria for the unusual event (UE) and alert. The UE was declined at 4:20 p.m., 10 minutes after being informed of a fire, in accordance with the pertinent EAL. The alert was declared within nine minutes after the reactor failed to scram. Following the declarations, notifications were made to off-site agencies in five and nine minutes, respectively, thus satisfying the 15-minute notification goal.

Overall, SCR performance was assessed by the NRC inspection team as good. The NRC inspection team noted no particular exercise strength or exercise weakness in the SCR.

7.0 TECHNICAL SUPPORT CENTER (TSC)

The TSC was fully activated in 48 minutes following the alert declaration after a thorough turnover with the FD in the SCR. Overall, accident assessment, plant response monitoring, and event classification activities in the TSC were good. Good communications were evident among the various ERFs (i.e., SCR, TSC, OSC). The TSC provided properly-supported bases for technical conclusions. The ED in the TSC conducted good briefings with his staff that were sufficiently frequent and in good detail and were consistent with changing plant conditions. Late in the exercise, the TSC staff processed a 10 CFR 50.54(x) procedure variance for stopping the pump in one of the two containment spray systems due to concerns related to strainer clogging. The NRC inspection team concluded that this change was not based on a specific plant or system operating conditions. All operating parameters for the containment spray systems were normal, and the system was effectively removing heat from the torus. The licensee explained that it was done as a conservative measure to ensure that one pump would be available if the other pump was incapacitated by a clogged strainer.

Overall, TSC staff performance was assessed by the NRC inspection team as good. The NRC inspection team noted no particular exercise strength or exercise weakness in the TSC.

8.0 OPERATIONS SUPPORT CENTER (OSC)

The OSC was staffed in a timely manner and was activated and declared functional 37 minutes following the Alert declaration. The OSC coordinator (OSCC) maintained good command and control of emergency work teams and designated the appropriate priority for each emergency work team. The teams maintained good communications with the OSC and were tracked by computer.

The OSC emergency work teams were briefed and debriefed by personnel design and by the OSCC. The briefings by the Emergency Maintenance Coordinator or, Radiological Controls Coordinator (RCC), and the OSC operations coordinator were informative and pertinent. The emergency work teams received briefings on the task they were to perform and the radiological conditions of the plant prior to the teams being dispatched. The OSC staff received briefings concerning plant status from the emergency director over the plant intercom. However, the NRC inspection team noted that the OSCC did not brief the OSC staff during the exercise in accordance with EPIP-27, "The Operation Support Center." This was brought to the attention of the OSC lead controller, but it was not addressed during the licensee's critique. This matter was reiterated by the NRC during the exit meeting.

The RCC and his assistants maintai ed good control in the OSC during the changing radiological conditions in the plant. The RCC and the OSCC established good communications and routinely discussed plant conditions prior to dispatching emergency work teams to the field. However, the NRC inspection team observed an equipment operator (EO) who left the OSC without a health physics (HP) technician after the SAE had been declared. This was brought to the attention of a controller who questioned the HP technician responsible for issuing dosimetry. The EO was directed to return to the OSC by radio, after which an HP technician was properly dispatched with the EO. The licensee addressed this issue in its critique and noted it as an area for improvement.

The RCC assigned an HP technician to assess the habitability of the OSC. The inspectors observed frequent habitability checks and also observed a change in the configuration of the OSC staging area when radiological conditions in the plant warranted that action. The configuration change was made to maintain contamination control within the OSC and the staging area for emergency work teams returning from the field.

During the exercise, the NRC team noted that several craft personnel had exited the Operations Support Center (OSC) in order to use a restroom. This was necessary due to the lack of restroom facilities within the OSC proper. These individuals did not use radiological controls when exiting and returning to the OSC because they had been directed to take themselves out of the drill when using the restrooms. The NRC team concluded that the lack of restroom facilities posed a challenge to managing OSC personnel that had not been identified by the licensee.

The emergency work teams were prioritized and tracked, using the emergency work team tracking computer in the OSC command center. Each emergency work team was assigned a number and was tracked by that number. The OSC dispatched 16 emergency work teams. Each work team was assigned a specific task that was given an appropriate priority level based on its significance. The tracking computer used an overhead display so the entire OSC staff could see the location, status, and the priority of each team. The NRC inspection team assessed this visual aid as a good tool for managing/monitoring OSC personnel.

The NRC inspection team observed timely response by the fire brigade team to a simulated fire in a diesel oil tank. The fire brigade demonstrated the ability to use self-contained breathing apparatus and maintained good communication with the SCR during the course of the event.

Overall, OSC performance was assessed by the NRC inspection team as good. The NRC inspection team noted no particular exercise strength or exercise weakness in the OSC.

9.0 EMERGENCY OPERATIONS FACILITY (EOF)

9.1 EOF Command and Control

Licensee procedures required that the EOF be activated within 60 minutes of the notification of a site area emergency (SAE). The EOF was activated in a timely manner, 57 minutes after the alert declaration. Event notifications to off-site response agencies were smooth and timely for the SAE and the general emergency (GE).

The Emergency Support Director (ESD) demonstrated good command and control by providing regular plant status briefings to his staff, conducting conferences with his group leaders, and keeping the State updated on event status. The ESD promptly initiated a conference at the GE level to formulate a protective action recommendation (PAR), which was provided to State officials within 10 minutes of the GE declaration.

The ESD left the Group Leader-Administrative Support in charge when he left for conferences. By procedure, the preferred person to act in the absence of the ESD is the assistant ESD (AESD). The AESD, however, accompanied the ESD to the conferences. During these periods, lasting 6 to 10 minutes, the ESD's phones were generally not answered. The ESD did not require that action items be logged and tracked in accordance with the ESD procedure. During an ESD conference, the NRC team noted that this resulted in at least one State request for information being overlooked.

During the licensee Emergency Response Organization's (ERO's) efforts to terminate the release, the ESD discussed with his group leaders whether to approve extended radiation exposures for personnel to enter the reactor building for repairs to an isolation condenser valve. One group leader suggested that the decision be made based on an engineering assessment of the likelihood of success of the repair effort. The decision for entry into the reactor building was made even though no engineering assessment was available at the time and none was requested. The valves could have been secured with comparatively little radiation exposure had the licensee ERO pursued the mitigative action that had been postulated in the scenario by manipulation of the isolation valves' motor controllers in the turbine building. This matter was characterized by the licensee as an area for improvement during their critique.

The inspector noted that the EP representative position was filled by the corporate EP planner, whose office is in Harrisburg, Pennsylvania. This person was prestaged at the EOF, an exercise artificiality that was not necessary, because there were others in the area who could have filled this position.

Overall, EOF responders performed their duties well. The NRC inspection team noted no particular exercise strength or exercise weakness specific to the EOF.

9.2 EOF Dose Assessment

The EOF dose assessment area was staffed within 51 minutes of the alert classification notification.

The dose assessment team commenced performing "what if" calculations as soon as the dose assessment computers were operational. Several "what if" calculations were performed and assessed by the Environmental Assessment Coordinator (EAC) and the Group Leader-Radiological and Environmental Controls (R&EC) prior to the release. After the release started, dose projections were performed every 15 minutes until the exercise was terminated.

The meteorology dose assessment coordinator (MDAC) and the EAC evaluated the dose projections and the meteorological data to ensure that the fieldmonitoring teams were sent to the appropriate and predetermined sampling locations to monitor for the plume. The MDAC also noted the wind shifts and moved the field-monitoring teams in the appropriate down wind direction so that they could traverse and define the plume location.

The State of New Jersey, Bureau of Nuclear Engineering, was continuously provided with the updated dose projection and meteorological information. However, the MDAC did not request field-monitoring information obtained by the State from its teams so that he would have additional data for analysis of plume location and source term composition. This valuable resource, especially when limited numbers of field teams are dispatched, was apparently overlooked.

The EAC evaluated the dose projections and the field team data and recognized that there were indications of a possible ground release on-site. The EAC immediately held discussions with the radiological engineer in the TSC and requested further investigation on-site to determine the source of the release.

Overall, the NRC team considered the performance in the dose assessment area as being very good.

10.0 LICENSEE CRITIQUE

On November 2, 1995, the NRC inspection team attended the licensee's exercise critique. The licensee's critique focused on major observations and comments, and a rating was assigned to each issue. During the critique, the majority of issues noted by the NRC inspection team were identified. However, the licensee did not attach the same significance to the failure to declare the SAE as did the NRC inspection team. The licensee characterized this issue as an improvement item that the licensee defined as "The action or item identified meets current minimum response requirements and is within procedural guidelines, but improvement would substantially increase the efficiency and effectiveness of the emergency response effort. Items identified in this category are typically those that do not directly or indirectly affect the health and safety of the public but could affect how efficiently an emergency situation is handled." As noted previously, the licensee identified the failure to declare the SAE in a timely manner as an improvement item applicable to the entire ERO. It also emphasized that the simulator provided an incorrect indication of a 900 psi discharge pressure in the liquid poison system despite the break in the discharge piping between the souib valves and the drywell.

The NRC inspection team assessed the licensee's critique as being good. The exercise issue rating system used by the licensee demonstrated a very good management practice to prioritize and address issues.

11.0 CONCLUSIONS

Overall, the NRC inspection team assessed the licensee's performance during the exercise as good. Most of the licensee's exercise objectives were met. The licensee successfully demonstrated its ability to implement it E-Plan and EPIPs.

12.0 OPEN ITEMS

(IFI 93-14-01) Emergency Response Facility (ERF) Inventories

During NRC Inspection No. 50-219/93-14 (September 1993), several concerns regarding the ERF surveillances were noted. The report noted that "The EP Manager was aware of these items and planned to: 1) rewrite the inventory

procedure such that items in the facilities more closely followed the order on inventory lists, 2) allow a grace period for inventory completion in the new procedure, and 3) remind his staff, who review the completed inventories, of the importance of procedure adherence."

This item was reviewed in NRC Inspection No. 50-219/95-07 (March 1995). The item remained open as additional concerns were raised. These concerns related to the adequacy of the guidance in the revised procedure.

The licensee's Administrative Procedure 6430-ADM-1319.02, "Emergency Response Facilities and Equipment Maintenance," Revision 11, dated May 9, 1995, provides direction for the surveillance and maintenance of the emergency response facilities. Procedure Step 5.3.2.3 requires that "All boxes on inventory forms that require the number present to be verified shall be filled in with the appropriate number." Procedure Step 5.4.1 requires that "The Department Supervisor shall sign completed inventory, indicating any deficiencies found and corrected and submit to the EP Surveillance Coordinator." Procedure Step 5.4.3 requires that "Individual inventories will be reviewed by the EP Manager-OC or his designee."

During the conduct of this inspection, the NRC inspectical team reviewed ERF surveillances conducted during May 1995 and September 1995 and noted the following discrepancies in carrying out procedure 6430-ADM-1319.02. Both of these surveillances were conducted using Revision 11 of the procedure, which became the applicable revision after NRC Inspection No. 50-219/95-07.

- One checklist was found such where an individual entered a check mark for certain items rather than denoting the number present as required by Procedure Step 5.3.2.3. This particular error was not corrected during the subsequent reviews by designated management. Other checklists had been similarly completed, but were identified and corrected during the management review process.
- One of the surveillance checklists had not been reviewed by department managers as required by procedural step 5.4.1.
- Some of the surveillance checklists had not been reviewed by the EP Manager or his designee as required by Procedure Step 5.4.3.

The NRC inspection team also discussed with the EP manager other discrepancies in the completed ERF surveillances that the EP manager stated did not meet his expectations.

- Individuals signed as reviewing for the manager when they themselves conducted the inventories.
- One surveillance checklist was found in which an item was marked "N/A", with no reason provided.
- On some checklists, individuals changed the number of items found and neither initialed their changes on the checklists nor denoted any actions taken to address the discrepancy.

Despite the procedure having been revised several times since this problem was initially identified by the NRC and the EP manager's cautions to staff regarding procedural adherence, the NRC team found that the situation still existed.

10 CFR 50.54(q) requires, in part, that "A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans that meet the standards in 50.47(b) and the requirements in appendix E of this part."

10 CFR 50.47(b)(8) requires that "Adequate emergency facilities and equipment to support the emergency response are provided and maintained".

The licensee's NRC-approved Emergency Plan, Section 7.0, "Emergency Response Facilities and Equipment," Part 7.10, "Emergency Equipment Readiness," requires "to insure that the necessary emergency equipment is maintained and available for use during emergency situations, readiness checklists have been developed and incorporated in administrative procedures. These checklists facilitate detailed inventory and calibration/functional checks of equipment contained in the emergency kits/lockers. The inventory checklists will be performed on a quarterly basis and to insure interim readiness, all kits/lockers are sealed or locked as appropriate.

The Emergency Plan, Section 8.0, "Maintaining Emergency Preparedness," Part 8.1.1.3, requires that actions must be taken to "Ensure that assigned responsibilities for maintaining emergency preparedness are accomplished in a timely manner in accordance with relevant procedures and that required documentation is prepared and maintained to reflect accomplishment of such activities, i.e, surveillance, audit, inventory, calibration and corrective actions as appropriate".

The failure to follow the ERF Surveillance Procedure 6430-ADM-1319.02, "Emergency Response Facilities and Equipment Maintenance," was assessed by the NRC inspection team to be a violation of 10 CFR 50.54(q) and 10 CFR 50.47(b)(8) (NOV 50-219/95-20-02).

Inspector Follow-up Item (IFI) 50-219/93-014-01 is considered to be administratively closed due to the issuance of the Notice of Violation.

13.0 EXIT MEETING

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The NRC inspection team met with the licensee personnel listed in Detail 1.0 at the conclusion of the inspection to discuss the scope and findings of the inspection as mentioned above. The licensee acknowledged the findings.

After the exit meeting on November 6, 1995, a licensing engineer contacted the NRC inspection team leader by telephone and stated that she did not feel that the issue regarding ERF surveillances warranted a violation and that the licensee was not ready for this item to be closed. The NRC inspection team assessed that these points had no merit due to the following considerations:

- The licensee had over two years to address this issue as procedural compliance in implementing the ERF surveillance procedure was noted as a particular concern in NRC Inspection Report No. 50-219/93-14.
- During the entrance meeting, the NRC inspection team stated that the matter would be reviewed.
- 3) Following procedures and implementing effective corrective actions is extremely important in the operation of nuclear power plants and, when not done, is a violation of NRC requirements.

Subsequently, the NRC inspection team leader and the OCNGS emergency preparedness manager discussed the NRC inspection team's assessment of the points disseminated by the licensee during the November 6, 1995, telephone call. The NRC inspection team leader conveyed to the OCNGS EP manager that the NRC inspection team considered the information provided and concluded that a violation of NRC requirements had occurred.