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January 30, 1990

U.S. Nuclear Regulatory Commission
 Attention: Document Control Desk
 Washington, DC 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station
 Docket No. 50-219
 Generic Letter 89-13 Response

Attached is GPU Nuclear's response to Generic Letter 89-13 concerning the Oyster Creek Service Water System. The attachment summarizes the NRC recommended actions followed by GPU Nuclear's response to each action.

If you have any questions regarding the submittal, please contact Kathy Barnes, Oyster Creek Licensing Engineer at (609)971-4390.

Very truly yours,

E. E. Fitzpatrick
 Vice President and Director
 Oyster Creek

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 Attachment

cc: Mr. William T. Russell, Administrator
 Region I
 U.S. Nuclear Regulatory Commission
 475 Allendale Road
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Mr. Alex W. Dromerick, Project Manager
 US Nuclear Regulatory Commission
 Washington, DC 20555

NRC Resident Inspector
 Oyster Creek Nuclear Generating Station

Sworn to and Subscribed before
 me this 30th day

of January, 1990.

DIANA M. DeBLASIO
 NOTARY PUBLIC OF NEW JERSEY
 My Commission Expires 6-5-91

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ATTACHMENT

NRC Recommended Action I:

"For open cycle service water systems, implement and maintain an ongoing program of surveillance and control techniques to significantly reduce the incidence of flow blockage problems as a result of biofouling."

GPUN Response:

The affected open cycle service water system, per the criteria of GL 89-13, consists of the Emergency Service Water (ESW) system.

Enclosure 1 (Items A-D) to GL 89-13 provided a recommended program for responding to Recommended Action 1. The following provides GPUN's program in response to each of those items.

Enclosure I, Item A

An inspection program for the intake structure at Oyster Creek was implemented during the past two refueling outages. During the 11R outage, the north intake structure was dewatered, cleaned and repaired as necessary. The south intake was done during the 12R outage. The inspection was performed primarily to examine structural integrity of the intake structure components and to make repairs as necessary.

GPUN does not believe that dewatering and inspecting the externals of the intake structure would be beneficial to ensuring reliability of the Oyster Creek ESW system, and has implemented an effective alternative course of action. As outlined in response to Recommended Action III below, a surveillance and inspection program are in place that provide early indication of biofouling and flow degradation. As indicated by these surveillance and inspection results, corrective actions are taken as necessary to ensure sufficient system flow.

Enclosure I, Item B

The ESW system is currently chlorinated to prevent biofouling to the extent allowed by NJ State permits. There is a portion of piping, approximately 50-100 ft., that is not chlorinated. A modification would be required that would relocate the chlorination injection point to include this portion of pipe, and therefore, provide chlorination of a greater percentage of the ESW piping. This modification is presently being evaluated as an improvement to our existing chlorination system, and if it is determined to be necessary, will be scheduled in accordance with the integrated schedule.

Enclosure I, Item C

The ESW system is currently tested at full flow once per month. The system has few mechanical interfaces with other systems (Chlorination, Service Water, and Containment Spray), there are no infrequently used loops, and the redundant pumps are tested at the same frequency as the primary pumps.

Enclosure I, Item D

This requirement is not applicable to Oyster Creek as the cooling water source is not freshwater.

GPUN considers Oyster Creek to be in compliance with the recommended Action I.

NRC Recommended Action II:

"Conduct a test program to verify the heat transfer capability of all safety related heat exchangers cooled by service water..."

GPUN Response:

Currently, GPUN does not have a program for performance testing of the Containment Spray Heat exchangers. In accordance with the recommendation, GPUN is evaluating the feasibility of monitoring heat exchanger performance, based on accuracies of available instrumentation and adequate temperature differential. If it is determined to be feasible, a monitoring program, as outlined below, will be in effect prior to startup from the 13R outage.

- 1) Additional instrumentation will be installed to measure Heat Exchanger tube side inlet and outlet temperatures, and heat exchanger shell side inlet temperature.
- 2) A test procedure will be developed with appropriate acceptance criteria, or with a method for calculating acceptable performance based on the data obtained.
- 3) An initial test frequency will be established. Testing of the heat exchangers will only be possible when there is sufficient temperature differential between the intake canal and the torus water, such as in the fall months. Performance testing may not be possible immediately after the tube cleaning due to insufficient temperature differential, but will be scheduled at the first opportunity.

If such a monitoring program is not feasible, GPUN will implement an alternative action such as that suggested in Enclosure 2 to GL 89-13. The alternative actions would include visual inspections, when possible, and trending of surveillance data to ensure cleanliness of the heat exchangers.

Based on this discussion, GPUN will provide a description of our monitoring program in future correspondence related to GL 89-13.

NRC Recommended Action III:

"Ensure by establishing a routine inspection and maintenance program for open-cycle service water system piping and components that corrosion, erosion, protective coating failure, silting, and biofouling cannot degrade the performance of the safety related systems supplied by service water."

GPUN Response:

Differential pressure across the heat exchangers is monitored during the monthly system surveillance test. Maintenance, which includes tube cleaning and inspection, is performed when the differential pressure reaches predetermined limits. The monthly surveillance tests also provide an indication of the degree of fouling in the ESW pump discharge piping. The effect of this fouling on pump flow is monitored and cleaning is scheduled as appropriate to maintain system capabilities.

The majority of the ESW piping has an internal protective coating. GPUN has established a program which requires ultrasonic test measurements to be performed on the uncoated portions of the piping each refueling outage. The results are evaluated to determine corrosion in the piping. The results of the evaluation are used to identify requisite corrective actions, as appropriate. During the 11R and 12R outages, portions of the ESW piping were monitored by UT measurements and video camera. Both surveillance methods revealed that the pipe wall thickness remains equal to, or greater than, the minimum required thickness. The video camera revealed no coating degradation in the observed line areas.

In accordance with ASME Section XI requirements, GPUN will perform a pressure test of the underground portion of the ESW piping that cannot be visually inspected. This test will be performed prior to startup from the 13R outage.

NRC Recommended Action IV:

"Confirm that the service water system will perform it's intended function in accordance with the licensing basis of the plant..."

GPUN Response:

During August and September 1989, the NRC conducted a Safety System Functional Inspection (SSFI) of the Oyster Creek ESW and Containment Spray Systems. As documented in NRC Inspection Report 89-80, the overall conclusion was that these systems would perform their intended functions during a design basis event. The weaknesses that were identified have been addressed in GPUN correspondence dated November 27, 1989 and January 23, 1990.

The SSFI team noted that the Containment Spray and ESW pump operability flow limits were not consistent with the flowrates assumed in containment performance analyses. Additionally, previous containment analyses assumed a maximum intake canal temperature of 85°F, which had recently been exceeded. During December, 1989, GPUN issued Technical Data Report (TDR) 993 which resolved these issues. Your letter of December 20, 1989 provided concurrence that these issues have been resolved. Therefore, GPUN considers Oyster Creek to be in compliance with Recommended Action IV.

NRC Recommended Action V:

"Confirm that maintenance practices, operating and emergency procedures, and training that involves the service water system are adequate to ensure that safety-related equipment cooled by the service water system will function as intended and that operators of this equipment will perform effectively...."

GPUN Response:

GPUN procedures are reviewed at least every two years and are revised as required, which provides reasonable assurance that procedures are adequate and reflect plant configuration. In addition, these procedures were reviewed during the recent SSFI and found to be acceptable.

The Oyster Creek training department maintains lesson plans for training operators on plant systems. Lesson plans are reviewed and revised as necessary to reflect changes in system configuration and operation.

GPUN concludes that our current procedure review and training programs provide assurance that the safety related equipment cooled by service water systems will perform their intended functions, and that operators of this equipment will perform effectively.