

August 5, 1992

Docket  
File

Docket No. 50-219

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Mr. John J. Barton  
Vice President and Director  
GPU Nuclear Corporation  
Oyster Creek Nuclear Generating Station  
Post Office Box 388  
Forked River, New Jersey 08731

Dear Mr. Barton:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. M83004)

The Commission has issued the enclosed Amendment No. 159 to Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated March 17, 1992.

The amendment revises Technical Specification (TS) 4.2.E.5 which changes the frequency of surveillance of solution Boron-10 enrichment from each refueling outage to once every 24 months. TS Bases 4.2 is revised to reflect the above changes to the surveillance interval for the solution Boron-10 enrichment.

A copy of the related Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

Alexander W. Dromerick, Sr. Project Manager  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 159 to DPR-16
2. Safety Evaluation

cc w/enclosures:  
See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555

GPU NUCLEAR CORPORATION

AND

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 159  
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by GPU Nuclear Corporation, et al., (the licensee), dated March 17, 1992 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;  
and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

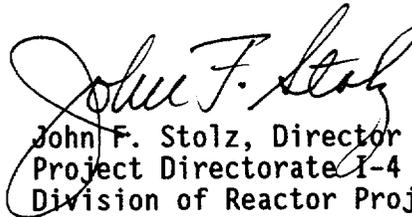
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-16 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 159, are hereby incorporated in the license. GPU Nuclear Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 5, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 159

FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

4.2-2  
4.2-4

Insert

4.2-2  
4.2-4

- |    |                                       |   |
|----|---------------------------------------|---|
| 3. | Functional test                       | Once every 24 months  |
| 4. | Solution volume and temperature check | Once/day  |
| 5. | Solution Boron-10 Enrichment          | Once every 24 months. Enrichment analyses shall be received no later than 30 days after sampling. If not received within 30 days, notify NRC (within 7 days) of plans to obtain test results. |

- F. At specific power operation conditions, the actual control rod configuration will be compared with the expected configuration based upon appropriately corrected past data. This comparison shall be made every equivalent full power month. The initial rod inventory measurement performed with equilibrium conditions are established after a refueling or major core alteration will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle.
- G. The scram discharge volume drain and vent valves shall be verified open at least once per 31 days, except in shutdown mode\*, and shall be cycled at least one complete cycle of full travel at least quarterly.
- H. All withdrawn control rods shall be determined OPERABLE by demonstrating the scram discharge volume drain and vent valves OPERABLE. This will be done at least once per refueling cycle by placing the mode switch in shutdown and by verifying that:
- a. The drain and vent valves close within 30 seconds after receipt of a signal for control rods to scram, and
  - b. The scram signal can be reset and the drain and vent valves open when the scram discharge volume trip is bypassed.

BASIS: The core reactivity limitation (Specification 3.2.A) requires that core reactivity be limited such that the core could be made subcritical at any time during the operating cycle, with the strongest operable control rod fully withdrawn and all other operable rods fully inserted. Compliance with this requirement can be demonstrated conveniently at the time of refueling. Therefore, the demonstration must be such that it will apply to the entire subsequent fuel cycle. The demonstration is performed with the reactor core in the cold, xenon-free condition and will show

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\* These valves may be closed intermittently for testing under administrative control.

Pump operability, boron concentration, solution temperature and volume of standby liquid control system<sup>(4)</sup> are checked on a frequency consistent with instrumentation checks described in Specification 4.1. Experience with similar systems has indicated that the test frequencies are adequate. The only practical time to functionally test the liquid control system is during a refueling outage. The functional test includes the firing of explosive charges to open the shear plug valves and the pumping of demineralized water into the reactor to assure operability of the system downstream of the pumps. The test also includes recirculation of liquid control solution to and from the solution tanks.

Pump operability is demonstrated on a more frequent basis. This test consists of recirculation of demineralized water to a test tank. A continuity check of the firing circuit on the shear plug valves is provided by pilot lights in the control room. Tank level and temperature alarms are provided to alert the operator to off-normal conditions.

Figure 3.2.1 was revised to reflect the minimum and maximum weight percent of sodium pentaborate solution, and the minimum atom percent of B-10 to meet 10 CFR 50.62(c)(4). Since the weight percent of sodium pentaborate can change with water makeup or water evaporation, frequent surveillances are performed on the solution concentration, volume and temperature. The sodium pentaborate is enriched with B-10 at the chemical vendor's facility to meet the minimum atom percent. Preshipment samples of batches are analyzed for B-10 enrichment and verified by an independent laboratory prior to shipment to Oyster Creek. Since the B-10 enrichment will not change while in storage or in the SLCS tank, the surveillance for B-10 enrichment is performed on a 24 month interval. An additional requirement has been added to evaluate the solution's capability to meet the original design shutdown criteria whenever the Boron-10 enrichment requirement is not met.

The functional test and other surveillance on components, along with the monitoring instrumentation, gives a high reliability for standby liquid control system operability.

#### References

- (1) FDSAR, Volume II, Figure III-5-11
- (2) FDSAR, Volume I, Section VI-3
- (3) FDSAR, Volume I, Section III-5 and Volume II, Appendix B
- (4) FDSAR, Volume I, Section VI-4



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 159

TO FACILITY OPERATING LICENSE NO. DPR-16

GPU NUCLEAR CORPORATION AND

JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated March 17, 1992 (Ref. 1), GPU Nuclear Corporation (GPUN or the licensee) proposed changes to the Technical Specifications (TS) associated with the surveillance requirements for the Standby Liquid Control System (SLCS) for Oyster Creek Nuclear Generating Station (OCNGS). The licensee has proposed to modify the surveillance interval of the Boron-10 (B-10) enrichment of the SLCS tank from once per cycle at each refueling outage with analyses available within 30 days after startup, to once every 24 months with results available within 30 days after the sampling. The change was requested to allow flexibility in performing the surveillance.

2.0 EVALUATION

The current Technical Specification requires a Boron-10 enrichment surveillance of the Standby Liquid Control System at each refueling outage. The licensee purchases sodium pentaborate preformulated and pre-enriched, and the B-10 enrichment is verified prior to shipment to the site. Because B-10 is very stable, the enrichment of the solution will not change while in storage or in the SLCS tank. The intent of the requirement to check the B-10 enrichment at each refueling outage is to verify the enrichment of the SLCS tank at least once per cycle. Since it is possible to perform this surveillance at any time during the cycle including power operations, the current TS unnecessarily restricts this surveillance to the refueling outage.

Since OCNGS operates on a 24-month fuel cycle, the proposed frequency of once every 24 months will be at least as frequent as once every refueling outage. The proposed change is, therefore, acceptable.

Based on the staff evaluation in Section 2.0 above, the staff concludes that the proposed Technical Specifications concerning the surveillance of the Boron-10 enrichment of the SLCS tank are acceptable.

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### 3.0 TECHNICAL SPECIFICATION CHANGES

TS Section 4.2.E.5 - Change frequency of surveillance of solution Boron-10 enrichment from each refueling outage to once every 24 months.

TS BASES Section 4.2 - Revised to reflect the above changes to the surveillance interval for the solution Boron-10 enrichment.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendment. The State official had no comments.

### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (57 FR 13131). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. Cubbage

Date: August 5, 1992