

October 19, 1994

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

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. M90249)

Dear Mr. Barton:

The Commission has issued the enclosed Amendment No. 172 to Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated August 19, 1994.

The amendment updates and clarifies the surveillance requirements for control rod exercising and standby liquid control pump operability testing to be consistent with Generic Letter 93-05.

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,

Original signed by Ronald W. Hernan

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

Docket No. 50-219

Enclosures: 1. Amendment No. 172 to DPR-16
2. Safety Evaluation

cc w/encls: See next page

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w/changes noted
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OFFICE	LA:PDI-4	PM:PDI-4	D:PDI-4	OGC	
NAME	SNorris	ADromerick:bf	JSP	CPW	
DATE	09/21/94	09/21/94	09/21/94	09/22/94	09/ /94

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NAME	SNorris	ADromerick:bf	JS [signature]	[signature]	
DATE	09/21/94	09/21/94	09/21/94	09/22/94	09/ /94

OFFICIAL RECORD COPY

Mr. John J. Barton
Vice President and Director

Oyster Creek Nuclear
Generating Station

cc:

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Trenton, New Jersey 08625



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 172
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 August 19, 1994, 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.

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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. 172, 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 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Phillip F. McKee, 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: October 19, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 172

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

4.2.1
4.2.3

Insert

4.2.1
4.2.3

4.2 REACTIVITY CONTROL

Applicability: Applies to the surveillance requirements for reactivity control.

Objective: To verify the capability for controlling reactivity.

Specification:

- A. Following a reactor refueling when core alterations were performed, sufficient control rods shall be withdrawn to demonstrate with a margin of 0.25% Δk that the core can be made subcritical at any time in the subsequent fuel cycle with the strongest operable control rod fully withdrawn and all other operable rods fully inserted.
- B. The control rod drive housing support system shall be inspected after reassembly.
- C.
 - 1. After each major refueling outage and prior to resuming power operation, all operable control rods shall be scram time tested from the fully withdrawn position with reactor pressure above 800 psig.
 - 2. Following each reactor scram from rated pressure, the mean 90% insertion time shall be determined for eight selected rods. If the mean 90% insertion time of the selected control rod drives does not fall within the range of 2.4 to 3.1 seconds or the measured scram time of any one drive for 90% insertion does not fall within the range of 1.9 to 3.6 seconds, an evaluation shall be made to provide reasonable assurance that proper control rod drive performance is maintained.
 - 3. Following any outage not initiated by a reactor scram, eight rods shall be scram tested with reactor pressure above 800 psig provided these have not been measured in six months. The same criteria of 4.2.C(2) shall apply.
- D. Each partially or fully withdrawn control rod shall be exercised at least once each week. This test shall be performed within 24 hours in the event power operation is continuing with two or more inoperable control rods or in the event power operation is continuing with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than two and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.
- E. Surveillance of the standby liquid control system shall be as follows:
 - 1. Pump operability Once/3 months
 - 2. Boron concentration determination Once/month

that the reactor is sub-critical at that time by at least $R + 0.25\% \Delta k$ with the highest worth operable control rod fully withdrawn.

The value of R is the difference between two calculated values of reactivity of the cold, xenon-free core with the strongest operable control rod fully withdrawn. The reactivity value at the beginning of life is subtracted from the maximum reactivity value anytime later in life to determine R, which must be a positive quantity or its value is conservatively taken as zero. The value of R shall include the potential shutdown margin loss assuming full B₄C settling in all possibly inverted tubes present in the core. The value $0.25\% \Delta k$ in the expression $R + 0.25\% \Delta k$ serves at the beginning of life as a finite, demonstrable shutdown margin. This margin is demonstrated by full withdrawal of the strongest rod and partial withdrawal of a diagonally adjacent rod to a position calculated to insert an $R + 0.25\% \Delta k$ reactivity. Observation of subcriticality in this condition assures subcriticality with not only the strongest rod fully withdrawn but at least an $R + 0.25\% \Delta k$ margin beyond this.

The control rod drive housing support system⁽²⁾ is not subject to deterioration during operation. However, reassembly must be assured following a partial or complete removal.

The scram insertion times for all control rods⁽³⁾ will be determined at the time of each refueling outage. The scram times generated at each refueling outage when compared to scram times previously recorded gives a measurement of the functional effects of deterioration for each control rod drive. The more frequent scram insertion time measurements of eight selected rods are performed on a representative sample basis to monitor performance and give an early indication of possible deterioration and required maintenance. The times given for the eight-rod tests are based on the testing experience of control rod drives which were known to be in good condition.

The weekly control rod exercise test serves as a periodic check against deterioration of the control rod system. Experience with this control rod system has indicated that weekly tests are adequate, and that rods which move by drive pressure will scram when required as the pressure applied is much higher. The requirement to exercise the control rods within 24 hours of a condition with two or more control rods which are valved out of service or one fully or partially withdrawn control rod which can not be moved provides prompt assurance of the reliability of the remaining control rods.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 172

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 August 19, 1994, GPU Nuclear Corporation (GPUN/the licensee) requested an amendment which would modify the current Technical Specifications (TS) 4.2.D and 4.2.E to incorporate line item TS improvements TS 4.1.3.1.2 and TS 4.1.5 that were identified by the NRC staff as reported in NUREG-1366, "Improvements to Technical Specification Surveillance Requirements" December 1992. The TS improvements were based on an NRC study of surveillance requirements and included information provided by licensee personnel that plan, manage and perform surveillances. The study included insights from qualitative risk assessment of surveillance requirements based on the standard technical specifications for Westinghouse plants and TS for the Edwin I Hatch Nuclear Plant Unit 2. The staff examined operational data from licensee event reports, the nuclear plant reliability data system and other sources to access the effect of TS surveillance requirements on plant operation. The staff evaluated the effect of longer surveillance intervals to reduce the possibility for plant transients, wear on equipment, personnel radiation exposure, and burden on personnel resources. Finally the staff considered surveillance activities for which the safety benefits are small and relaxation is justified when compared to the effects of these activities on the safety of personnel and the plant. The NRC staff issued guidance on the proposed TS changes to all holders of operating licenses or construction permits for nuclear power reactors in Generic Letter (GL) 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993.

2.0 EVALUATION

The licensee proposed modifications to the TS 4.2.D and 4.2.E.1 and the bases as discussed below:

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TS 4.2.D (Line Item Improvement TS 4.1.3.1.2)

GPUN proposed to revise the Control Rod Drive (CRD) exercise requirement to be compatible with plant operating experience and GL 93-05 guidance. This TS changes the requirement to exercise all control rods daily in the event of continued operation with one immovable or two or more inoperable control rods. Control rods would only be required to be exercised within 24 hours of the conditions of one immovable or two inoperable control rods and then be exercised weekly thereafter. GPUN has identified only one instance of required daily testing of the Oyster Creek CRD the last 7 years. This exercise testing occurred during 3 consecutive days while two control rods were declared inoperable for maintenance activities. No other control rods were identified as being inoperable during exercise testing. TS 4.2.D is changed to require control rod testing "within 24 hours" as stated by GL 93-05 guidance. Also a typographical error, "collect," rather than "collet" was identified and corrected.

The existing TS 4.2 Bases was also changed to update and clarify the requirement to exercise the control rods so as to provide consistency with the proposed surveillance frequency.

TS 4.2.E.1 (Line Item Improvement TS 4.1.5)

GPUN proposed to revise the Standby Liquid Control pump operability requirements to be compatible with plant operating experience and GL 93-05 guidance. No instances of either pump failing its surveillance testing criteria in the last 5 years were identified. TS 4.2.E.1 is changed to require surveillance of pump operability from every "month" to every "3 months," consistent with GL 93-05 guidance and the ASME Code.

Based on the staff review, the staff has concluded that the proposed TS modifications are consistent with the guidelines provided in GL 93-05. This guidance is based on the staff findings and recommendations stated in NUREG-1366. In addition, the licensee states that the proposed TS changes are compatible with plant operation experience. The staff also concludes that the proposed TS changes do not adversely affect plant safety and will result in a net benefit to the safe operation of the facility and, therefore, are acceptable.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (59 FR 47168). 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.

5.0 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. Dromerick

Date: October 19, 1994