

November 5, 1998

Mr. Michael B. Roche
Vice President and Director
GPU Nuclear, Inc.
Oyster Creek Nuclear Generating Station
P.O. Box 388
Forked River, NJ 08731

SUBJECT: OYSTER CREEK - ISSUANCE OF AMENDMENT NO. 202 , RE: SAFETY LIMIT
MINIMUM CRITICAL POWER RATIO (TAC NO. MA2406)

Dear Mr. Roche:

The Commission has issued the enclosed Amendment No. 202 to Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station, in response to your application dated July 23, 1998, as supplemented by your letter dated September 25, 1998.

The amendment will establish that the existing Safety Limit Minimum Critical Power Ratio (SLMCPR) contained in Technical Specification 2.1.A is applicable for the next operating cycle, (Cycle 17).

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

Sincerely,
Original signed by

Ronald B. Eaton, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosures: 1. Amendment No. 202 to DPR-16
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION: See attached page

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M. Roche
GPU Nuclear, Inc.

cc:

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Kent Tosch, Chief
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DATED: November 5, 1998

AMENDMENT NO. TO FACILITY OPERATING LICENSE NO. DPR-16-OYSTER CREEK

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

GPU NUCLEAR, INC.

AND

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.202
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by GPU Nuclear, Inc., et al., (the licensee), dated July 23, 1998, as supplemented by a letter dated September 25, 1998, 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.202 , are hereby incorporated in the license. GPU Nuclear, Inc. 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



Cecil O. Thomas, Director
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment Changes to the Technical
Specifications

Date of Issuance: Novemebr 5, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 202

FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace the following page of the Appendix A, Technical Specifications, with the attached page as indicated. The revised page is identified by amendment number and contains vertical lines indicating the areas of change.

Remove

2.1-1

Insert

2.1-1

SECTION 2

SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.1 SAFETY LIMIT - FUEL CLADDING INTEGRITY

Applicability: Applies to the interrelated variables associated with fuel thermal behavior.

Objective: To establish limits on the important thermal hydraulic variables to assure the integrity of the fuel cladding.

Specifications:

- A. When the reactor pressure is greater than or equal to 800 psia and the core flow is greater than or equal to 10% of rated, the existence of a minimum CRITICAL POWER RATIO (MCPR) less than 1.09* shall constitute violation of the fuel cladding integrity safety limit.
- B. When the reactor pressure is less than 800 psia or the core flow is less than 10% of rated, the core thermal power shall not exceed 25% of rated thermal power.
- C. In the event that reactor parameters exceed the limiting safety system settings in Specification 2.3 and a reactor scram is not initiated by the associated protective instrumentation, the reactor shall be brought to, and remain in, the COLD SHUTDOWN CONDITION until an analysis is performed to determine whether the safety limit established in Specification 2.1.A and 2.1.B was exceeded.
- D. During all modes of reactor operation with irradiated fuel in the reactor vessel, the water level shall not be less than 4'8" above the TOP OF ACTIVE FUEL.

Bases:

The fuel cladding integrity safety limit is set such that no fuel damage is calculated to occur if the limit is not violated. Since the parameters which result in fuel damage are not directly observable during reactor operation the thermal and hydraulic conditions resulting in a departure from nucleate boiling have been used to mark the beginning of the region where fuel damage could occur. Although it is recognized that a departure from nucleate boiling would not necessarily result in damage to BWR fuel rods, the critical power at which boiling transition is calculated to occur has been adopted as a convenient limit. However, the uncertainties in monitoring the core operating state and in the procedure used to calculate the

* Applicable for cycle 17 only.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 202
TO FACILITY OPERATING LICENSE NO. DPR-16
GPU NUCLEAR, INC. AND
JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK NUCLEAR GENERATING STATION
DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated July 23, 1998, as supplemented September 25, 1998, GPU Nuclear, Inc., (the licensee) submitted a request for changes to the Oyster Creek Nuclear Generating Station Technical Specifications (TSs). The requested changes would establish that the existing Safety Limit Minimum Critical Power Ratio (SLMPCR) contained in TS 2.1.A is applicable for the next operating cycle (Cycle 17). The September 25, 1998, letter provided clarifying information within the scope of the original application and did not change the staff's initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The safety limit MCPR (SLMCPR) in TS 2.1.A for Cycle 17 is not changed from the value of 1.09 for the current Cycle 16 operation. This value is for the reactor pressure ≥ 800 psia and the core flow $\geq 10\%$ of rated. The applicable cycle number in the footnote to TS 2.1.A would be changed from Cycle 16 to Cycle 17 operation only.

The licensee described the methodology used to calculate the new SLMCPR value for the TS in the submittal. The Cycle 17 SLMCPR analysis was performed by GE using the plant- and cycle-specific fuel and core parameters, NRC-approved methodologies including GESTAR-II (NEDE-24011-P-A-11, Sections 1.1.5 and 1.2.5) and proposed Amendment 25 to GESTAR-II. The proposed Amendment 25 to GESTAR-II provides cycle-specific SLMCPRs that replace the former generic, bounding SLMCPR.

The staff has reviewed the following: (1) the justification for the SLMCPR value of 1.09 for the Cycle 17 operation, and (2) the relevant information provided in the proposed Amendment 25 to GESTAR-II, NEDE-24011 (which is under the staff review).

The Cycle 17 SLMCPR analysis for Oyster Creek using the plant-specific calculation in conjunction with the approved method is acceptable for Oyster Creek. The Cycle 17 SLMCPR will ensure that 99.9% of the fuel rods in the core will not experience boiling transition which satisfies the requirements of General Design Criterion 10 of Appendix A to 10 CFR Part 50

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regarding acceptable fuel design limits. The justification for analyzing and determining the SLMCPR value of 1.09 for Oyster Creek Cycle 17 operation is acceptable since (1) the approved methodologies were used, and (2) the current TS limit of 1.09 is conservative to the Cycle 17 calculated SLMCPR of 1.08.

Based on our review, the staff concludes that the above described TS changes involving the SLMCPR, and applicable cycle number in the footnote for the SLMCPR values in TS 2.1.A are acceptable for the Oyster Creek Nuclear Generating Station Cycle 17 operation because the change was analyzed based on the NRC-approved methods using Oyster Creek cycle-specific inputs and the fuel bundles in the core for Cycle 17 operation.

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 (63 FR 45525). 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: T. Huang

Date: November 5, 1998