

November 3, 2000

Mr. Mike Reandeau
Director - Licensing
Clinton Power Station
P.O. Box 678
Clinton, IL 61727

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**SUBJECT: CLINTON POWER STATION, UNIT 1 - ISSUANCE OF AMENDMENT
(TAC NO. MA9608)**

Dear Mr. Reandeau:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 135 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit 1. The amendment is in response to your application dated July 27, 2000, as supplemented October 5, 2000.

The amendment revises the Technical Specification Safety Limit Minimum Critical Power Ratio.

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

Sincerely,

/RA/

Jon B. Hopkins, Senior Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures: 1. Amendment No. 135 to NPF-62
2. Safety Evaluation

cc w/encls: See next page

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LRR-058

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 3, 2000

Mr. Mike Reandeau
Director - Licensing
Clinton Power Station
P.O. Box 678
Mail Code V920
Clinton, IL 61727

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Jon B. Hopkins, Senior Project Manager, Section 2
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Docket No. 50-461

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2. Safety Evaluation

cc w/encls: See next page

Mike Reandeau

**Clinton Power Station, Unit 1
AmerGen Energy Company, LLC**

cc:

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Clinton, IL 61727**

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

AMERGEN ENERGY COMPANY, LLC

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 135
License No. NPF-62

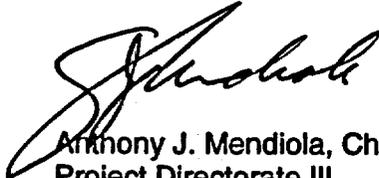
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by AmerGen Energy Company, LLC (the licensee), dated July 27, 2000, as supplemented October 5, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. NPF-62 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 135 are hereby incorporated into this license. AmerGen Energy Company, LLC, shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: November 3, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 135

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

Replace the following pages of the Appendix "A" Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

2.0-1
5.0-19

Insert Pages

2.0-1
5.0-19

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow:

THERMAL POWER shall be \leq 25% RTP.

2.1.1.2 With the reactor steam dome pressure \geq 785 psig and core flow \geq 10% rated core flow:

MCPR shall be \geq 1.09 for two recirculation loop operation or \geq 1.12 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be \leq 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed:

2.2.1 Within 1 hour, notify the NRC Operations Center, in accordance with 10 CFR 50.72.

2.2.2 Within 2 hours:

2.2.2.1 Restore compliance with all SLs; and

2.2.2.2 Insert all insertable control rods.

2.2.3 Within 24 hours, notify the plant manager and the corporate executive responsible for overall plant nuclear safety.

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC in General Electric Standard Application for Reactor Fuel (GESTAR), NEDE-24011-P-A.
 - c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
 - d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. NPF-62

AMERGEN ENERGY COMPANY, LLC

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated July 27, 2000, AmerGen Energy Company, LLC (AmerGen or the licensee), proposed an amendment to the Clinton Power Station (CPS) Technical Specifications (TSs). The proposed amendment revises the Safety Limit Minimum Critical Power Ratio (SLMCPR) and makes some administrative changes associated with the revised SLMCPR to the TSs. On August 23, 2000, the Commission published in the Federal Register a proposed determination that the requested amendment involves no significant hazards consideration (65 FR 51348).

Supplemental information was submitted by letter dated October 5, 2000. The supplemental letter provided additional information and did not change the amendment request as noticed or affect the proposed no significant hazards consideration determination.

2.0 EVALUATION

The CPS Cycle 8 core is planned to have 624 fuel assemblies, which would be comprised of 188 fresh General Electric - 14 (GE14) bundles, 180 once burned GE10 bundles, 220 twice burned GE10 bundles, and 36 thrice burned GE10 bundles.

The licensee proposes to delete the cycle specific note, "--Note-- Only applicable for Cycle 7 operation" preceding TS 2.1.1.2 and to revise the SLMCPR value for single loop operation from 1.10 to 1.12.

The licensee described the methodologies used to calculate the SLMCPR values for the proposed TS changes in the submittals. The Cycle 8 SLMCPR analysis was performed by Global Nuclear Fuel (GNF) using the plant-specific and cycle-specific fuel and core parameters, and Nuclear Regulatory Commission (NRC) approved methodologies, including NEDO-10958-A (GETAB), NEDC-32601P (Methodology and Uncertainties for Safety Limit MCPR Evaluations), NEDC-32694P (Power Distribution Uncertainties for Safety Limit MCPR Evaluation), and Amendment 25 to NEDE-24011-P-A (GESTAR-II). GNF has identified in its analytical calculation that a bipolar distribution of rod critical power ratio (CPR) values skews the relationship between the limiting bundle minimum critical power ratio (MCPR) in the core and the limiting rod CPRs. However, the final results are based on the approved Monte Carlo calculation, which is independent of the shape of the distribution.

The NRC staff has reviewed the information provided justifying the change to the CPS SLMCPR value from 1.10 to 1.12 for single-loop operation and no change to the SLMCPR value for two-loop operation using the approach stated in Amendment 25 to GESTAR II. The staff has reviewed the plant-specific and cycle-specific parameters and judges that the values of those parameters are reasonable. Because the analysis uses approved methods, the plant-specific and cycle-specific parameters are reasonable, and the results fall within an expected range, the staff concludes that the SLMCPR analysis is acceptable. The SLMCPR value for single-loop operation, which is 0.03 higher than two-loop operation SLMCPR value, will ensure that 99.9 percent 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 regarding acceptable fuel design limits. Therefore, the staff has concluded that a SLMCPR of 1.09 for two recirculation loop operation and 1.12 for single-loop operation for CPS is acceptable.

The staff has also reviewed the proposed change to delete the cycle-specific note and found it acceptable since the staff has approved the methodologies for cycle-specific MCPR Safety Limit calculations described in Amendment 25 to NEDE-24011-P-A and the licensee has performed its analyses based on the approved methodologies.

Based on our review, we conclude that the proposed changes are acceptable for CPS, since the changes are analyzed based on NRC approved methods and the most conservative cycle-specific parameters for SLMCPR analysis are used.

The proposed change includes removal of a reference to correspondence that was submitted to NRC to support the Cycle 7 SLMCPRs in TS 5.6.5, "Core Operating Limits Report." The staff has reviewed the proposed change and finds it acceptable since Cycle 7 is complete.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

This 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 (65 FR 51348). 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 staff 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 3, 2000