

July 5, 2007

Mr. Christopher M. Crane  
President and Chief Executive Officer  
AmerGen Energy Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT  
RE: CLIIP AMENDMENT TO REVISE CONTROL ROD SCRAM TIME TESTING  
FREQUENCY (TAC NO. MD3576)

Dear Mr. Crane:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 177 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. The amendment is in response to your application dated November 13, 2006, regarding the Clinton Power Station, Unit No. 1. The proposed amendment would revise the technical specification (TS) testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." Specifically, the proposed change would revise the frequency for SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1," to "200 days cumulative operation in MODE 1." This operating license improvement was made available by the NRC on August 23, 2004, as part of the consolidated line item improvement process.

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/

Stephen P. Sands, Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures:

1. Amendment No. 177 to NPF-62
2. Safety Evaluation

cc w/encls: See next page

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Clinton Power Station, Unit No. 1

cc:

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via e-mail

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Manager Licensing - Dresden, Quad Cities  
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AMERGEN ENERGY COMPANY, LLC

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177  
License No. NPF-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by AmerGen Energy Company, LLC (the licensee), dated November 13, 2006, 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. 177 are hereby incorporated into this license. The licensee 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 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**/RA/**

Russell Gibbs, Chief  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Facility Operating License

Date of Issuance: July 5, 2007

ATTACHMENT TO LICENSE AMENDMENT NO. 177

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

Replace the following pages of the Facility Operating License and 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

License NPF-62  
Page 4

TS  
3.1-12

Insert

License NPF-62  
Page 4

TS  
3.1-12

- (4) AmerGen Energy Company, LLC, pursuant to the Act and to 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  - (5) AmerGen Energy Company, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  - (6) AmerGen Energy Company, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

AmerGen Energy Company, LLC is authorized to operate the facility at reactor core power levels not in excess of 3473 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
  - (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. 177, 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.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE NO. NPF-62  
AMERGEN ENERGY COMPANY, LLC  
CLINTON POWER STATION, UNIT NO. 1  
DOCKET NO. 50-461

## 1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC, the Commission) dated November 13, 2006 (Agencywide Documents and Access Management System Accession No. ML063170331), AmerGen Energy Company, LLC (AmerGen, the licensee), requested changes to the technical specifications (TSs) for Clinton Power Station (Clinton), Unit No. 1.

The proposed changes would revise the TSs testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." Specifically, the proposed change would revise the frequency for SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

These changes are based on TS Task Force Change Traveler TSTF No. 460 (Revision 0) that has been approved generically for the boiling-water reactor (BWR) Standard TS, NUREG-1433 (BWR/4) and NUREG-1434 (BWR/6) by revising the frequency of SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1." A notice announcing the availability of this proposed TS change using the consolidated line item improvement process was published in the *Federal Register* on August 23, 2004 (69 FR 51864).

## 2.0 REGULATORY EVALUATION

The TS requirement governing the control rod scram time surveillance is intended to assure proper function of control rod insertion. Following each refueling outage, all control rod scram times are verified. In addition, periodically during power operation, a representative sample of control rods is selected to be inserted to verify the insertion speed. A representative sample is defined as a sample containing at least 10 percent of the total number of control rods. The current TS stipulates that no more than 20 percent of the control rods in this representative sample can be "slow" during the post outage testing. With more than 20 percent of the sample declared to be "slow" per the criteria in TS Table 3.1.4-1, additional control rods are tested until this 20 percent criterion (e.g., 20 percent of the entire sample size) is satisfied, or until the total number of "slow" control rods (throughout the core, from all surveillances) exceeds the limiting condition for operation limit. For planned testing, the control rods selected for the sample



should be different for each test. The acceptance criterion for at-power surveillance testing will be redefined from 20 percent to 7.5 percent and will be incorporated into the TS Bases in accordance with its Bases Control Program. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The proposed change does not affect any current operability requirements and the test frequency being revised is not specified in regulations. As a result, no regulatory requirements or criteria are affected.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Statement of Proposed Changes

Clinton TS SR 3.1.4.2 states "verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure  $\geq 950$  psig." SR 3.1.4.2 has a frequency of "120 days cumulative operation in MODE 1." The proposed change revises the frequency to "200 days cumulative operation in MODE 1." The TS Basis for SR 3.1.4.2 will be revised to reference the new frequency and to reduce the percentage of the tested rods which can be "slow" from 20 percent to 7.5 percent.

#### 3.2 Evaluation of Proposed Change

The control rod insertion (scram) time test results at Clinton have shown the control rod scram rates to be highly reliable. In its submittal dated November 13, 2006, the licensee stated that it has performed a review of the control rod drive system scram time test results for Clinton. This review determined the following:

For Clinton, from May 1992 to August 2006 (approximately 14 years), Clinton conducted a total of 2180 individual control rod scram time tests. Out of those tests only 22 control rods were identified as 'slow.'

The extensive historical database substantiates the claim of high reliability of the Clinton control rod drive systems. The current TS, with TS Bases in SR 3.1.4.2, requires that 10 percent of the 145 control rods (or at least 15 rods) be tested via sampling every 120 cumulative days of operation in Mode 1. It also states the acceptance criteria for at-power surveillance testing, that the sample remains representative is met if 20 percent or fewer of the control rods in the sample tested are found to be slow, per the criterion in TS Table 3.1.4-1. This acceptance criterion will be re-defined for at-power surveillance testing from 20 percent to 7.5 percent when the surveillance period is extended to 200 cumulative days of operation in Mode 1. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The licensee will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases in accordance with its Bases Control Program, as a condition of this license amendment.

The NRC staff considers the extended surveillance interval to be justified by the demonstrated reliability of the control rod insertion system, based on historical control rod scram time test data, and by the more restrictive acceptance criterion for determining whether the sample of

control rods tested remains representative. Therefore, the NRC staff finds the proposed TS change acceptable.

#### 4.0 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.

#### 5.0 REGULATORY COMMITMENTS

Commitment	Commitment Date
AmerGen will incorporate the revised acceptance criterion value of 7.5 percent into the CPS TS Bases for SR 3.1.4.2 in accordance of TS amendment with the Bases Control Program described in TS 5.5.11, "Technical Specifications (TS) Bases Control Program."	During implementation of TS amendment

#### 6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility's 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 published April 10, 2007 (72 FR 17944). 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.

#### 7.0 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. Wertz

Date: July 5, 2007