

April 25, 2000

Template # NRR-058

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SUBJECT: CLINTON POWER STATION, UNIT 1 - ISSUANCE OF AMENDMENT  
(TAC NO. MA7002)

Dear Mr. Reandeau:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 128 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit 1. The amendment is in response to the application dated October 25, 1999 (U-603281), filed by Illinois Power Company (IP), the licensee at that time. Subsequent to that filing, AmerGen Energy Company, LLC, the current licensee, adopted the license amendment requests submitted by IP.

The amendment revises the Technical Specification definitions for channel calibrations, channel functional tests, and logic system functional tests.

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. 128 to NPF-62  
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 25, 2000

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P.O. Box 678  
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Clinton, IL 61727

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cc w/encls: See next page

Mike Reandeau

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Illinois Power Company

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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. 128  
License No. NPF-62

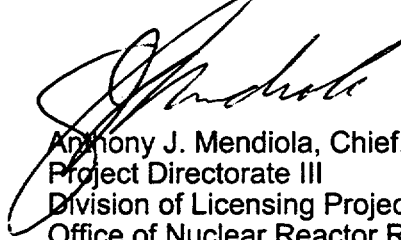
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by AmerGen Energy Company, LLC (the licensee), dated October 25, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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.128, 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: April 25, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 128

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

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

<u>Remove Page</u>	<u>Insert Page</u>
1.0-1	1.0-1
1.0-2	1.0-2
1.0-4	1.0-4

## 1.0 USE AND APPLICATION

## 1.1 Definitions

## -----NOTE-----

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)	The APLHGR shall be applicable to a specific planar height and is equal to the sum of the LHGRs for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle at the height.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an in-place qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps.
CHANNEL CHECK	A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

(continued)

## 1.1 Definitions (continued)

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CHANNEL FUNCTIONAL TEST	A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps.
CORE ALTERATION	<p>CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components within the reactor vessel with the vessel head removed and fuel in the vessel. The following exceptions are not considered to be CORE ALTERATIONS:</p> <ul style="list-style-type: none"><li>a. Movement of source range monitors, local power range monitors, intermediate range monitors, traversing incore probes, or special movable detectors (including undervessel replacement); and</li><li>b. Control rod movement, provided there are no fuel assemblies in the associated core cell.</li></ul> <p>Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.</p>
CORE OPERATING LIMITS REPORT (COLR)	The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites."

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(continued)



## 1.1 Definitions (continued)

## LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE into the drywell such as that from pump seals or valve packing, that is captured and conducted to a sump or collecting tank; or
2. LEAKAGE into the drywell atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE;

b. Unidentified LEAKAGE

All LEAKAGE into the drywell that is not identified LEAKAGE;

c. Total LEAKAGE

Sum of the identified and unidentified LEAKAGE;

d. Pressure Boundary LEAKAGE

LEAKAGE through a nonisolable fault in a Reactor Coolant System (RCS) component body, pipe wall, or vessel wall.

LINEAR HEAT GENERATION  
RATE (LHGR)

The LHGR shall be the heat generation rate per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length.

LOGIC SYSTEM FUNCTIONAL  
TEST

A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components required for OPERABILITY of a logic circuit, from as close to the sensor as practicable up to, but not including, the actuated device, to verify OPERABILITY. The LOGIC SYSTEM FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total system steps so that the entire logic system is tested.

(continued)



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 128 TO FACILITY OPERATING LICENSE NO. NPF-62

AMERGEN ENERGY COMPANY, LLC

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

The previous licensee, Illinois Power Company (IP), for the Clinton Power Station (CPS) proposed a license amendment to revise the Technical Specification (TS) definitions for Channel Calibration, Channel Functional Test, and Logic System Functional Test, by letter dated October 25, 1999 (U-603281). By letter dated February 1, 2000, AmerGen Energy Company, LLC, the current licensee, adopted the license amendment requests submitted by IP.

2.0 BACKGROUND

Improved Standard Technical Specifications (ISTS) were approved for CPS by license Amendment No. 95 dated December 2, 1994.

In a meeting between the Nuclear Regulatory Commission (NRC) staff and the Nuclear Energy Institute on April 17, 1997, the staff described problems that had been found with the ISTS definitions of Channel Calibration, Channel Functional Test, and related definitions. Revised definitions were proposed for those terms to eliminate ambiguity and possible misinterpretation. The revised definitions to the ISTS are described in the document, TSTF-205, Revision 3, "Revision of Channel Calibration, Channel Functional Test, and Related Definitions." TSTF-205, Rev. 3 was approved by the NRC staff in a letter dated January 13, 1999, from W. Beckner, NRC to J. Davis, Nuclear Energy Institute. Subsequently, the licensee submitted its license amendment request to adopt the revised definitions applicable to CPS.

3.0 EVALUATION

The current CPS TS definition for Channel Calibration includes the phrase, "... shall encompass the entire channel, including the required sensor, alarm, display, and trip functions ...." The proposed definition changes this phrase to "... shall encompass all devices in the channel required for channel OPERABILITY ...."

In the current definition of Channel Calibration, there is ambiguity in the application of the word "required" and whether the list is inclusive or representative. The proposed wording clarifies the use of the word "required" and makes clear that the components that are required to be tested or calibrated are only those that are necessary for the channel to perform its safety function.

The proposed definition for Channel Calibration eliminates ambiguity that could result in misinterpretation of the definition, and is consistent with the revised ISTS definitions approved by the NRC as discussed above. Therefore, the proposed CPS TS definition of Channel Calibration is acceptable to the NRC staff.

The current CPS TS definition for Channel Functional Test includes the phrase, "... to verify OPERABILITY, including required alarm, interlock, display, and trip functions, and channel failure trips." The proposed definition changes this phrase to "... to verify OPERABILITY of all devices in the channel required for channel OPERABILITY."

Again, in the current definition there is ambiguity in the application of the word "required" and whether the list is inclusive or representative. The proposed wording clarifies the use of the word "required" and makes clear that the components that are required to be tested are only those that are necessary for the channel to perform its safety function.

The proposed definition for Channel Functional Test eliminates ambiguity that could result in misinterpretation of the definition, and is consistent with the revised ISTS definitions approved by the NRC. Therefore, the proposed CPS TS definition of Channel Functional Test is acceptable to the NRC staff.

The current CPS TS definition for Logic System Functional Test includes the phrase, "... a test of all required logic components (i.e., all required relays and contacts, trip units, solid state logic elements, etc.) of a logic circuit ...." The proposed definition changes this phrase to "... a test of all logic components required for OPERABILITY of a logic circuit...."

In the current definition there is ambiguity in the application of the word "required" and whether the list is inclusive or representative. The proposed wording clarifies the use of the word "required" and makes clear that the components that are required to be tested are only those that are necessary for the logic circuit to perform its safety function.

The proposed definition for Logic System Functional Test eliminates ambiguity that could result in misinterpretation of the definition, and is consistent with the revised ISTS definitions approved by the NRC. Therefore, the proposed CPS TS definition of Logic System Functional Test is acceptable to the NRC staff.

The NRC staff has reviewed the proposed changes to the CPS TS definitions for Channel Calibration, Channel Functional Test, and Logic System Functional Test and based on the above, the staff finds the changes to be acceptable.

Additionally in its submittal, the licensee describes changes planned for the CPS TS Bases that relate to the above definition changes. The changes to the TS Bases consist of adding the following statement to the Bases in several places.

A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

The above Bases statement clarifies what is an acceptable Channel Functional Test. Single contact tests of a relay to meet TS required testing described in the revised Channel Functional Test definition is an acceptable test of a relay because all of the other required contacts are

tested by other TS and non-TS tests at least once per refueling interval. This allowance is consistent with TSTF-205, Rev. 3, and is acceptable.

TSTF-205, Rev. 3, describes adding the sentence, "In accordance with Reference 9, the scram contactors must be tested as part of the Manual Scram Function," to the Bases section for surveillance requirement 3.3.1.1.5. The licensee does not plan to add this sentence to its TS Bases, because scram contactors are not used in the solid-state logic design installed at CPS. This is acceptable to the NRC staff because the guidance in TSTF-205, Rev. 3 regarding this sentence, only applies to plants with scram contactors.

The NRC staff has reviewed the planned Bases changes, finds that they are consistent with TSTF-205, Rev. 3, and are 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 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 1920). 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 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: J. Hopkins

Date: April 25, 2000