

January 22, 1997

Mr. Paul J. Telthorst  
Director - Licensing  
Clinton Power Station  
P. O. Box 678  
Mail Code V920  
Clinton, IL 61727

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SUBJECT: ISSUANCE OF AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO.  
NPF-62 - CLINTON POWER STATION, UNIT 1 (TAC NO. M96368)

Dear Mr. Telthorst:

The U. S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 113 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. The amendment is in response to your application dated August 15, 1996 (U-602624), and as supplemented by letters dated October 28 (U-602651), November 15, 1996 (U-602662), and January 7, 1997 (U-602680).

The amendment changes the Clinton Power Station (CPS) Technical Specifications to incorporate the revised Safety Limit Minimum Critical Power Ratio (SLMCPR) as calculated by General Electric (GE) for CPS Cycle 7. The need to change the SLMCPR resulted from the 10 CFR Part 21 condition reported by GE in their letter to the NRC dated May 24, 1996.

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,

Original Signed by

Douglas V. Pickett, Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV  
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosures: 1. Amendment No. 113 to NPF-62  
2. Safety Evaluation

cc w/encls: See next page

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OFFICE	LA:PDIII-3	PM:PDIII-3	OGC	SC:SRXB
NAME	EBarnhill <i>EB</i>	DPickett:	<i>M. Young</i>	LPhillips*
DATE	1/14/97	1/22/97	1/15/97	11/25/96

\*See LPhillips to DPickett Memo of 11/25/96

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OFFICE	LA:PDIII-3	PM:PDIII-3	OGC	SC:SRXB
NAME	EBarnhill <i>EB</i>	DPickett:	<i>M Young</i>	LPhillips*
DATE	1/14/97	1/22/97	1/15/97	11/25/96

\*See LPhillips to DPickett Memo of 11/25/96

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Clinton Power Station  
Unit No. 1

cc:

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

ILLINOIS POWER COMPANY, ET AL.

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 113  
License No. NPF-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Illinois Power Company\* (IP), and Soyland Power Cooperative, Inc. (the licensees) dated August 15, 1996, and as supplemented on October 28, and November 15, 1996, and January 7, 1997, 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:

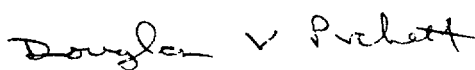
\*Illinois Power Company is authorized to act as agent for Soyland Power Cooperative, Inc. and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

(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. 113, are hereby incorporated into this license. Illinois Power Company 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Douglas V. Pickett, Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: January 22, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 113

FACILITY OPERATING LICENSE NO. NPF-62

DOCKET NO. 50-461

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

Remove Pages

2.0-1

5.0-19

Insert Pages

2.0-1

5.0-19

## 2.0 SAFETY LIMITS (SLs)

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### 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:

-----NOTE-----  
Only applicable for Cycle 7 operation.  
-----

MCPR shall be  $\geq$  1.09 for two recirculation loop operation or  $\geq$  1.10 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.

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### 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)

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## 5.6 Reporting Requirements

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### 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, except that the MCPR Safety Limits for Operating Cycle 7 shall be determined as described in Illinois Power letters (to the NRC) U-602624 dated August 15, 1996; U-602651 dated October 28, 1996; and U-602662 dated November 15, 1996.
  - 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.
-





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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. NPF-62

ILLINOIS POWER COMPANY, ET AL.

CLINTON POWER STATION, UNIT NO. 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated August 15, 1996, and as supplemented on October 28 and November 15, 1996, and January 7, 1997, Illinois Power Company, the licensee, requested changes to the Clinton Power Station (CPS) Technical Specifications to incorporate the revised Safety Limit Minimum Critical Power Ratio (SLMCPR) as calculated by General Electric (GE) for CPS Cycle 7. The need to change the SLMCPR resulted from the 10 CFR Part 21 condition reported by GE in their letter to the NRC dated May 24, 1996. The requested changes would revise the SLMCPR from 1.07 to 1.09 for two recirculation loop operation and from 1.08 to 1.10 for single recirculation loop operation to support GE-10 fuel for CPS Cycle 7 operation.

The October 28, 1996, November 15, 1996, and January 7, 1997 submittals provided clarifying information which did not affect the proposed no significant hazards determination as published in the Federal Register on September 11, 1996 (61 FR 47978).

2.0 EVALUATION

In a March 27, 1996 telephone call, GE notified the NRC that the SLMCPR generically calculated in accordance with the GE Standard Application for Reactor Fuel (GESTAR II) may be nonconservative when applied to some actual core and fuel designs. After meeting with the NRC, and in accordance with commitments made to the NRC, GE performed SLMCPR evaluations for all plants utilizing GE fuel and informed the affected plants of the results. The affected plants were then instructed to establish administrative controls to ensure conformance with the revised safety limit. Further review of this issue by GE resulted in the determination that this constituted a reportable condition per 10 CFR Part 21, as documented in the May 24, 1996, letter from GE to the NRC.

The SLMCPR is a specified acceptable fuel design limit as defined by General Design Criterion 10 of 10 CFR 50, Appendix A. The SLMCPR is applied to ensure fuel cladding integrity is not lost as a result of over-heating. The SLMCPR defines the minimum allowable critical power ratio (CPR) at which 99.9% of the fuel rods in the core are expected to avoid boiling transition during the most limiting anticipated operational occurrence (AOO).

By letter dated August 15, 1996, the licensee proposed revising CPS Technical Specification 2.1.1.2 to change the SLMCPR for two loop operation from 1.07 to 1.09 and single loop operation from 1.08 to 1.10. These new SLMCPR values were based on revised GE analysis performed for CPS Cycle 7 operation. The CPS cycle-specific fuel and core parameters used in this analysis included actual exposure-dependent rod power for R-factor distributions, and calculations made for several points in the operating cycle.

The staff review determined that the GE analysis include CPS cycle-specific parameters and was based on approved methodologies of GESTAR II (NEDE-24011-P-A-11, Sections 1.1.5 and 1.2.5) and NEDO-10985-A, January 1977, for both single and dual loop operation. The licensee's letters of October 28 and November 15, 1996, provided clarifying information of the analysis performed. The licensee's letter of January 7, 1997, modified Technical Specifications 2.1.1.2 and 5.6.5 to clearly indicate that the specified SLMCPR values are only applicable for Cycle 7 operation.

Based on our review, we conclude that the proposed changes to the SLMCPR are acceptable for CPS Cycle 7 operation because the new SLMCPR was developed with consideration of all the appropriate uncertainties and with considerable conservatism in the methodology. In addition, the use of the approved methodology will ensure that values for Cycle 7 are determined such that all applicable design bases and safety limits are met. Operation beyond Cycle 7 will require separate, supporting analysis for the SLMCPR values.

### 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 or changes a surveillance requirement. 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 (61 FR 47978). The amendment also changes record keeping or reporting requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (c)(10). 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:** January 22, 1997