December 11, 1990

Docket No. 50-461

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Mr. Frank A. Spangenberg
Licensing and Safety
Clinton Power Station
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Mail Code V920
Clinton, Illinois 61727

Dear Mr. Spangenberg:

SUBJECT: ISSUANCE OF AMENDMENT No. 56 TO FACILITY OPERATING LICENSE NO. NPF-62 (TAC NO. 73809)

The Commission has issued the enclosed Amendment No. 56 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. This amendment is in response to your application dated June 30, 1989.

This amendment revises Technical Specification Sections 3.5.2, 3.9.11.1, and 3.9.11.2 to add 3.0.4 exemptions to certain emergency core cooling system and residual heat removal action requirements for operations in modes 4 and 5.

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

Sincerely,

original signed by

John B. Hickman, Project Manager
Project Directorate III-3
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 56 to License No. NPF-62
2. Safety Evaluation

cc w/enclosures:
See next page

DOCUMENT NAME: 73809 AMD

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Date:	12/7/90	12/7/90	12/11/90	12/10/90

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Illinois Power Company

Clinton Power Station
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ILLINOIS POWER COMPANY, ET AL.

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 56
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 June 30, 1989, 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. 56 , 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

Robert B. Samworth

for John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of issuance: December 11, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 56

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	Insert
3/4 5-5	3/4 5-5
3/4 9-17	3/4 9-17
3/4 9-18	3/4 9-18

3/4.5.2 ECCS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.5.2 At least two of the following shall be OPERABLE and capable of being powered from a diesel generator of Specification 3.8.1.2.b.

a. The low pressure core spray (LPCS) system with a flow path capable of taking suction from the suppression pool and transferring the water through the spray sparger to the reactor vessel.

b. Low pressure coolant injection (LPCI) subsystem "A" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

c. Low pressure coolant injection (LPCI) subsystem "B" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

d. Low pressure coolant injection (LPCI) subsystem "C" of the RHR system with a flow path capable of taking suction from the suppression pool and transferring the water to the reactor vessel.

e. The high pressure core spray (HPCS) system with a flow path capable of taking suction from one of the following water sources and transferring the water through the spray sparger to the reactor vessel:

   1. From the suppression pool, or

   2. When the suppression pool level is less than the limit or is drained, from the RCIC storage tank containing at least 125,000 available gallons of water, equivalent to a level of 95%.

APPLICABILITY: OPERATIONAL CONDITIONS 4 and 5*.

ACTION:

a. With one of the above required subsystems/systems inoperable, restore at least two subsystems/systems to OPERABLE status within 4 hours or suspend all operations that have a potential for draining the reactor vessel. The provisions of Specification 3.0.4 are not applicable.

b. With both of the above required subsystems/systems inoperable, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel. Restore at least one subsystem/system to OPERABLE status within 4 hours or establish PRIMARY CONTAINMENT INTEGRITY within the next 8 hours.

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*The ECCS is not required to be OPERABLE provided that the reactor vessel head is removed, the cavity is flooded, the reactor cavity to steam dryer pool gate is open and water level in these upper containment pools is maintained within the limits of Specification 3.9.8 and 3.9.9.

SURVEILLANCE REQUIREMENTS

4.5.2.1 At least the above required ECCS shall be demonstrated OPERABLE per Surveillance Requirement 4.5.1.

4.5.2.2 The HPCS system shall be determined OPERABLE at least once per 12 hours by verifying the RCIC storage tank required volume when the RCIC storage tank is required to be OPERABLE per Specification 3.5.2.e.

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.1 At least one shutdown cooling mode loop of the residual heat removal (RHR) system shall be OPERABLE and in operation* with at least:

a. One OPERABLE RHR pump, and
b. One OPERABLE RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is greater than or equal to 23 feet above the top of the reactor pressure vessel flange.

ACTION:

a. With no RHR shutdown cooling mode OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the operability of at least one alternate method capable of decay heat removal. Otherwise, suspend all operations involving an increase in the reactor decay heat load and establish SECONDARY CONTAINMENT INTEGRITY within 4 hours.

b. With no RHR shutdown cooling mode loop in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11.1 At least one shutdown cooling mode loop of the residual heat removal system or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

*The shutdown cooling loop may be removed from operation for up to 2 hours per 8-hour period.

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.11.2 Two shutdown cooling mode loops of the residual heat removal (RHR) system shall be OPERABLE and at least one loop shall be in operation* with each train consisting of at least:

a. One OPERABLE RHR pump, and
b. One OPERABLE RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITION 5, when irradiated fuel is in the reactor vessel and the water level is less than 23 feet above the top of the reactor pressure vessel flange.

ACTION:

a. With less than the above required shutdown cooling mode loops of the RHR system OPERABLE, within one hour and at least once per 24 hours thereafter, demonstrate the operability of at least one alternate method capable of decay heat removal for each inoperable RHR shutdown cooling mode train.

b. With no RHR shutdown cooling mode loop in operation, within one hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature at least once per hour.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11.2 At least one shutdown cooling mode loop of the residual heat removal system or alternate method shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

*The shutdown cooling pump may be removed from operation for up to 2 hours per 8-hour period.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 56 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 June 30, 1989, Illinois Power Company (IP) (the licensee), requested an amendment to Facility Operating License No. NPF-62 for the Clinton Power Station. The proposed amendment would provide exceptions to Sections 3.0.4 in the Technical Specifications (TS). The exceptions would allow entry into certain operational conditions (OC) without meeting the Limiting Conditions for Operation (LCO), provided the requirements of associated action statements are met.

The proposed TS changes would provide greater operational flexibility during refueling outages while ensuring that adequate core decay heat removal capability and emergency core cooling system (ECCS) availability are maintained.

The proposed changes would allow the following evolutions or events to occur during a refueling outage while operating under the provisions of the applicable ACTION statement(s):

(a) Lowering reactor cavity/upper containment pool water level below 23 feet above the reactor pressure vessel flange,

(b) Detensioning the reactor vessel head, and

(c) Raising reactor cavity/upper containment pool water level from below to greater than or equal to 23 feet above the reactor pressure vessel flange.

These evolutions involve a mode change, i.e., entry into a different or applicable "OPERATIONAL CONDITION or other specified condition." A 3.0.4 exemption is thus required to permit such evolutions to occur while an applicable ACTION statement is in effect.

Section 3.0.4 in the Technical Specifications states:

> Entry into an OPERATIONAL CONDITION or other specified condition shall not be made unless the conditions in the Limiting Conditions for Operation are met without reliance on provisions contained in

the ACTION requirements. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

The proposed changes to the TS as identified in the June 30, 1989 submittal would provide exceptions to Specification 3.0.4 to be used in the following areas:

The proposed change would add a statement to Action a of TS 3.5.2 (ECCS - Shutdown) to state that the provisions of Specification 3.0.4 are not applicable.

The proposed change also will add a new Action c to TS 3.9.11.1 and 3.9.11.2 (RHR and Coolant Recirculation - High and Low Water Level) to state that provisions of Specification 3.0.4 are not applicable for lowering or increasing reactor cavity water level.

3.0 EVALUATION

Raising or lowering reactor cavity water level above or below 23 feet above the reactor vessel flange impacts the ECCS OPERABILITY requirements specified in CPS Technical Specification 3.5.2. This is due to the associated "*" note which provides relief from the requirement to have two ECCS subsystems/systems OPERABLE providing that the reactor cavity/upper containment pool water level is greater than or equal to 23 feet above the reactor flange (and other less restrictive requirements are met).

Under the current Technical Specification 3.5.2, a reduction in the reactor cavity/upper containment pool level to less than 23 feet is not permitted unless at least two ECCS subsystems/systems are OPERABLE. Incorporating a 3.0.4 exemption into ACTION "a" of Specification 3.5.2 would permit reactor cavity water level to be reduced below 23 feet with one ECCS OPERABLE. Accordingly, the ACTION would then require a second ECCS to be OPERABLE within 4 hours (or else all operations with a potential for draining the reactor vessel must be stopped).

As an example, during one portion of the current outage, the reactor cavity water level will be lowered to perform various maintenance activities. During this time, the high pressure core spray system (HPCS) may be inoperable for maintenance and surveillance on the HPCS and Division III diesel generator. The low pressure coolant injection (LPCI) A and B loops may also be inoperable during this outage window due to scheduled maintenance of the motor operated valve of the common suction line. This leaves the low pressure core spray system (LPCS) and LPCI loop C as the operable systems at the initiation of the drainage. If LPCI loop C or LPCS becomes inoperable, this condition puts the TS in the Action "a" statement. The exception to TS 3.0.4 allows an OC change during the lowering of water level with one ECC system inoperable. This exception is only needed in the 1- to 2-day period in the outage until the inoperable system is again made operable to serve as the second required ECCS.

The staff concludes that lowering the water level in the reactor cavity when one ECCS subsystem is inoperable is allowable because (1) the remaining subsystem, the LPCI or the LPCS, will be automatically actuated upon detection of low reactor vessel water level; (2) the exception will be used only during the short duration of the activity; and (3) water is drained through the spent fuel pool cooling and clean-up system and has no effect on the potential for draining the reactor vessel. Accordingly, the requested exception to TS 3.0.4 for TS 3.5.2, Action Statement a, is acceptable.

With the requested exemption from TS 3.0.4, the licensee would be permitted to raise or lower the reactor cavity/upper containment water level above or below the level of 23 feet above the reactor flange, (which is considered a change in MODE), while LCO ACTION statements for TS 3.9.11.1 and TS 3.9.11.2 are in effect. These ACTION statements permit operation with alternate decay heat removal methods other than the RHR system for unlimited periods of time. Because the operations which involve the change in level are short term in nature, i.e. normal refueling evolutions, and do not increase the potential for draining the reactor vessel, (because draining to lower water level is done through the spent fuel pool cooling and clean-up system) removal of the TS 3.0.4 requirement as it applies to TS 3.9.11.1 and TS 3.9.11.2 is not a safety concern and is therefore, acceptable.

Without a 3.0.4 exemption in ACTION "a" of Specification 3.5.2 and in the ACTION statement of Specifications 3.9.11.1 and 3.9.11.2, all required ECCS and residual heat removal (RHR) systems would have to be OPERABLE during the period that reactor cavity water level is reduced below 23 feet. The staff believes this is an unnecessary restriction and that the incorporation of the noted 3.0.4 exemptions is an acceptable change in view of the following:

(a) With respect to core decay heat removal and coolant circulation, the requirements of the ACTION statement of Specification 3.9.11.1 and 3.9.11.2 provide for alternate means to meet these concerns.

(b) One purpose of the proposed change is to accommodate short term drops in reactor cavity/upper containment pool water level that may occur, for example, during operational evolutions associated with the fuel pool cooling and cleanup system. The normal reactor cavity/upper containment pool water level at Clinton is 23 feet - 1/4 inch. (This corresponds to the level of the pool scuppers and skimmers.) Since the Technical Specification limit is 23 feet, there is very little allowance for perturbations in the pool level. A short term drop of greater than one-fourth inch can result in a violation of Specification 3.0.4 if, for example, two ECCS and two RHR shutdown cooling mode loops were not currently declared OPERABLE during the level perturbation.

(c) The 3.0.4 exemptions could not be utilized when handling fuel assemblies or control rods within the reactor pressure vessel when the fuel assemblies being handled are irradiated or the fuel

assemblies seated within the reactor vessel are irradiated because Technical Specification 3.9.8 requires 23 feet of water to be maintained over the top of the reactor pressure vessel flange during these conditions.

The proposed exceptions to TS 3.0.4 are acceptable, as requested, because the compensatory measures described in this safety evaluation are acceptable alternatives to meeting the LCO requirements.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 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; and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: G. Thomas

Dated: December 11, 1990