

October 3, 1996

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SUBJECT: ISSUANCE OF AMENDMENT NO. 108 TO FACILITY OPERATING LICENSE NO. NPF-62 - CLINTON POWER STATION, UNIT 1 (TAC NO. M95827)

Dear Mr. Phares:

The U. S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 108 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. The amendment is in response to your application dated June 21, 1996 (U-602591) and supplemented by letter dated August 15, 1996 (U-602619).

The amendment modifies Clinton Power Station Technical Specification 5.7, "High Radiation Area," in order to improve worker efficiency, increase worker awareness, clarify requirements and enhance readability.

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, Senior 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. 108 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

October 3, 1996

Mr. Richard F. Phares  
Manager - Nuclear Assessment  
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P. O. Box 678  
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Clinton, IL 61727

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NPF-62 - CLINTON POWER STATION, UNIT 1 (TAC NO. M95827)

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Sincerely,

A handwritten signature in cursive script that reads "Douglas V. Pickett".

Douglas V. Pickett, Senior 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. 108 to NPF-62  
2. Safety Evaluation

cc w/encls: See next page

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Unit No. 1

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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. 108  
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 21, 1996 and as supplemented by letter dated August 15, 1996, 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:

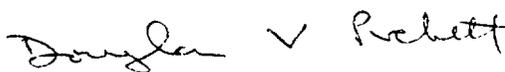
\*Illinois Power Company is authorized to act as agent for Soyland Power Cooperative, Inc. and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

(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. 108, 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, Senior 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: October 3, 1996

ATTACHMENT TO LICENSE AMENDMENT NO.108

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

Insert Pages

5.0-20

5.0-20

5.0-21

5.0-21

## 5.0 ADMINISTRATIVE CONTROLS

### 5.7 High Radiation Area

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5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601(a), each high radiation area, as defined in 10 CFR 20, in which an individual could receive a deep dose equivalent  $> 100$  mrem in one hour (at 30 cm), shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP) or equivalent.

Any individual or group of individuals permitted to enter such areas shall be provided with, or accompanied by, one or more of the following:

- a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rates in the area have been determined and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device. This individual shall be responsible for providing positive radiation protection control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by radiation protection supervision.

5.7.2 In addition to the requirements of Specification 5.7.1, high radiation areas in which an individual could receive a deep dose equivalent  $\geq 1000$  mrem in one hour (at 30 cm) shall be provided with locked or continuously guarded doors to prevent unauthorized entry. The keys to such locked doors shall be administratively controlled in accordance with a program approved by the radiation protection manager. Doors shall remain locked except during periods of access by personnel under an approved RWP, or equivalent, that shall ensure the individuals are informed of the dose rates in the immediate work areas.

(continued)

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## 5.7 High Radiation Area

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### 5.7.2 (continued)

Individual high radiation areas in which an individual could receive a deep dose equivalent  $\geq 1000$  mrem in one hour (at 30 cm), accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for enabling locking, or that are not continuously guarded, and where no lockable enclosure can be reasonably constructed around the individual area, shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.7.3 In addition to requirements of Specification 5.7.1 and 5.7.2 for high radiation areas, if an individual could receive a deep dose equivalent  $> 3000$  mrem in one hour (at 30 cm), the RWP or equivalent shall also specify the maximum allowable stay time or dose (on an alarming dosimeter) for individuals in those areas. In lieu of the stay time or dose specification of the RWP or equivalent, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the areas.

5.7.4 Individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals may, for the performance of their assigned duties in high radiation areas in which an individual could receive a deep dose equivalent  $\leq 3000$  mrem in one hour (at 30 cm), be exempt from the requirements of Specification 5.7.1 and 5.7.2 for issuance of an RWP or equivalent provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

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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. 108 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

Section 20.1101, "Radiation Protection Programs," of 10 CFR Part 20, "Standards for Protection Against Radiation," requires licensees to develop and implement a radiation protection program appropriate to the scope of licensed activities and potential hazards. Section 20.2102 requires licensees to document these programs. Clinton Power Station (CPS) Technical Specification (TS) 5.7, "High Radiation Areas," specifies requirements for controlling access to high radiation areas at CPS.

By letter dated June 21, 1996, and supplemented by letter dated August 15, 1996, Illinois Power Company proposed revisions to TS 5.7 in order to improve worker efficiency, increase worker awareness, clarify requirements and enhance readability. More specifically, the proposed changes include: (1) allowing utilization of a Radiation Work Permit (RWP) "or equivalent" to control entry into a high radiation area; (2) deleting the example given in the TS of individuals who are qualified in radiation protection procedures; (3) clarifying the requirements for when specified access controls and barriers for high radiation areas within large areas like the containment may be established; (4) clarifying that it is acceptable for an RWP to specify a maximum dose, i.e., a specified setpoint on an alarming dosimeter in lieu of a stay time for entry into a high radiation area (where an individual could receive a deep dose equivalent of 3000 mrem in one hour); (5) eliminating the upper dose limit for specifying the applicability of the requirements of Specification 5.7.1; (6) providing additional clarification regarding the control the keys to locked doors for preventing unauthorized entry into high radiation areas; (7) providing alternate means of informing individuals of dose rates in immediate work areas; (8) reorganizing TS Sections 5.7.1, 5.7.2, and 5.7.3 into four sections (5.7.1, 5.7.2, 5.7.3 and 5.7.4); and (9) making minor edits to enhance readability.

2.0 EVALUATION

The licensee has proposed a complete rewrite of TS Sections 5.7.1, 5.7.2 and 5.7.3 into four sections (5.7.1, 5.7.2, 5.7.3 and 5.7.4). The proposed changes and their justifications are as follows:

(1) Allowing utilization of a Radiation Work Permit (RWP) "or equivalent" to control entry into a high radiation area

Current TS Section 5.7, "High Radiation Areas," which was taken from the improved technical specifications for BWR/6 facilities (NUREG-1434), makes several references of access control of personnel to high radiation areas by issuance of radiation work permits (RWPs).

At CPS, several different documents are used to control access to high radiation areas. As discussed in the licensee's submittal, CPS uses a Radiological Surveillance Permit to control access to a high radiation area when the radiation worker(s) will only enter and remain in the area for a short time for the purpose of making an observation, performing a routine check or performing a straightforward task (e.g., to open a valve). In other situations, a Specific Radiation Work Permit is used when the radworker(s) will be performing nonroutine work or a special evolution in the area. While all of these documents may be considered to be a RWP in purpose and effect, only one of these documents is called a RWP. The licensee has stated that substituting the words "or equivalent" wherever "RWP" occurs in TS 5.7 will avoid confusion. The staff agrees that these documents perform the function of an RWP as used in the standard technical specifications. Therefore, the licensee's proposal to insert the words "or equivalent" when referring to RWPs is acceptable to the staff.

(2) Deleting the example given in the TS of individuals who are qualified in radiation protection procedures

Current TS Sections 5.7.1 and 5.7.2 state that "Individuals qualified in radiation protection procedures (e.g., radiation protection technicians) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement...."

The licensee has proposed to delete the parenthetical phrase "(e.g., radiation protection technicians)" from the existing technical specification. The licensee's position is that the current wording excludes radiation protection supervisors (Radiation Protection Shift Supervisors, etc.). In addition, the licensee states that this position is consistent with Health Physics Position (HPPOS) - 021, "Enforceability of NRR Letter Regarding Individuals Qualified in Radiation Protection Procedures."

The staff did not intend to exclude supervisors from those individuals responsible for providing positive control over the activities within a high radiation area and believes that the phrase "an individual qualified in radiation protection procedures" is sufficiently descriptive. Therefore, the staff finds this proposed change acceptable.

(3) Clarifying the requirements when specified access controls and barriers for high radiation areas within large areas like the containment may be established

Current TS Section 5.7.3 states that "areas in which an individual could receive a deep dose equivalent  $\geq 1000$  mrem in one hour (at 30 cm), accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning signal."

The licensee is concerned that the phrase "cannot be continuously guarded" could be interpreted to mean that every opportunity should be taken to physically post a guard at these high radiation areas. This would result in a large expenditure of licensee resources and would minimize or eliminate the use of alternative measures. For large areas as described above, in lieu of posting a guard, the licensee would like to maintain the option of barricading the area, posting conspicuous signs and installing a flashing light to warn personnel. In this regard, the licensee has proposed replacing the words "...where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed..." to read "...where no enclosure exists for enabling locking, or that is not continuously guarded, and where no enclosure can be reasonably constructed...." The licensee has also proposed to delete the words "that individual area" from this sentence to make it read more smoothly.

The staff did not intend to interpret the phrase "cannot be continuously guarded" as restricting the licensee's use of alternative measures to warn personnel of high radiation areas, but rather, an acknowledgement that continuously guarding the area is an acceptable access control that would alleviate the need to establish the described alternative. The staff agrees that the option to guard the area is explicitly provided in the "continuous direct or electronic surveillance" clause of 10 CFR 20.1601(b). Therefore, the staff accepts the proposed changes.

(4) Clarifying that it is acceptable for an RWP to specify a maximum dose, i.e., a specified setpoint on an alarming dosimeter in lieu of a stay time for entry into a high radiation area (where an individual could receive a deep dose equivalent of 3000 mrem in one hour)

Current TS 5.7.2 states that stay times be identified on the RWP for high radiation areas where an individual could receive a deep dose equivalent greater than 3000 mrem in any hour (at 30 cm). The licensee has proposed modifying the TS to allow the use of either a stay time or a specified maximum dose corresponding to the dose setting on an alarming dosimeter. The licensee states that the use of an alarming dosimeter is very much like a stay time because the dose setting of the alarming dosimeter is based on the maximum dose than an individual will be allowed to receive during entry into a high radiation area.

The staff concurs that the dose setpoint of the alarming dosimeter is a function of the dose rate of the area and is equivalent to the use of stay times for the purpose of ensuring that a predetermined maximum dose is not exceeded. Therefore, the staff accepts the use of maximum dose (on an alarming dosimeter) as an acceptable alternative to stay times.

(5) Eliminating the upper dose limit for specifying the applicability of the requirements of Specification 5.7.1

Current TS 5.7.1 specifies requirements for barricading, posting and controlling entrance into high radiation areas wherein "... an individual could receive a deep dose equivalent to > 100 mrem but < 1000 mrem in one hour (at 30 cm)...." The licensee has proposed to revise the TS to eliminate the upper limit ("but < 1000 mrem"). Section 20.1003 defines a high radiation area as an area accessible to individuals in which radiation levels could result in an individual receiving a dose equivalent in excess of 100 mrem in one hour (at 30 cm). Section 20.1003 also defines a very high radiation area as an area accessible to individuals in which radiation levels could result in an individual receiving a dose equivalent in excess of 500 rads in one hour (at one meter). Therefore, all areas with dose rates greater than 100 mrem but less than 500 rad per hour are high radiation areas.

The licensee states that deletion of the upper limit allows the TS to read consistent with the 10 CFR Part 20 posting requirements. In addition, deletion of the upper limit from this section improves the proposed TS Sections 5.7.2 and 5.7.3 to more clearly require that, for increased levels of dose (e.g., for dose levels > 1000 mrem), the actions required at the higher dose levels are in addition to the requirements specified in Section 5.7.1.

The staff concurs that the proposed TS Sections 5.7.1, 5.7.2 and 5.7.3 more clearly state the requirements for high radiation areas. Therefore, the staff finds this proposed change acceptable.

(6) Providing additional flexibility regarding who may control the keys to locked doors for preventing unauthorized entry into high radiation areas

Current TS Section 5.7.2 states that "... areas in which an individual could receive a deep dose equivalent  $\geq$  1000 mrem in one hour (at 30 cm) shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the shift supervisor on duty or radiation protection supervision." The licensee has proposed modifying the TS to clarify what is intended by the phrase "maintained under the administrative control" by ending the sentence at "unauthorized entry" and adding "The keys to such locked doors shall be administratively controlled in accordance with a program approved by the radiation protection manager."

The staff concurs that adequate control over keys can be maintained by the TS as revised. The authority and responsibility for key control remains with the radiation protection manager. Therefore, the staff finds this proposed change acceptable.

(7) Providing alternate means of informing individuals of dose rates in immediate work areas

Current TS Section 5.7.2 states that "Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work areas." The licensee proposes to replace the provision that the RWP "shall specify the dose rate levels in the immediate work areas" with "or equivalent, that shall ensure the individuals are informed of the dose rates in the immediate work areas." The licensee has stated that the current wording is too prescriptive and does not give allowance for use of alternate methods to inform a radiation worker of the levels of radiation.

The staff agrees that the proposed wording provides greater operational flexibility while maintaining the same level of protection. Therefore, the staff finds the proposed change acceptable.

(8) Reorganizing TS Sections 5.7.1, 5.7.2, and 5.7.3 into four sections (5.7.1, 5.7.2, 5.7.3 and 5.7.4); and

(9) Making minor edits to enhance readability

The licensee has proposed a number of minor revisions to improve clarity and readability. As previously discussed, the existing Sections 5.7.1, 5.7.2 and 5.7.3 will be modified to four sections (5.7.1, 5.7.2, 5.7.3, and 5.7.4).

Section 5.7.1 will be modified such that the discussion concerning circumstances when individuals may be exempt from the requirement for use of an RWP (or equivalent) during the performance of assigned duties in high radiation areas in which an individual could receive a deep dose equivalent  $\leq 3000$  mrem in one hour will be relocated to Section 5.7.4.

Section 5.7.2 will address requirements applicable for areas where an individual could receive a deep dose equivalent  $\geq 1000$  mrem in one hour whereas Section 5.7.3 will only address requirements for areas where an individual could receive a deep dose equivalent  $> 3000$  mrem in one hour.

The staff has reviewed these proposed changes and considers them to be minor or editorial in nature. The changes add clarity and readability to the TS and the staff finds them acceptable.

### 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 40021). 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 Contributors: Roger L. Pederson  
Douglas V. Pickett

Date: October 3, 1996