

October 16, 1992

Docket No. 50-461

Mr. Frank A. Spangenberg
Manager - Licensing and Safety
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Dear Mr. Spangenberg:

SUBJECT: AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE NO. NPF-62 (TAC NO. 81047)

The Commission has issued the enclosed Amendment No. 66 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. This amendment revises the Technical Specifications (TS) in response to your application dated July 1, 1991.

The amendment modifies various setpoints identified in TS 3/4.3.2, "Containment and Reactor Vessel Isolation Control Systems," to accommodate TS Surveillance intervals of 18 months.

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

Anthony T. Gody, Jr., Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 66 to License No. NPF-62
2. Safety Evaluation

cc w/enclosures:
See next page

| | | | |
|-----------|----------------|----------|----------|
| PD3-3:LA | PD3-3:PM | PD3-3 PD | OGC |
| PKreutzer | AGody, Jr./bj | JHannon | Buchmann |
| 9/20/92 | 10/11/92 (old) | 10/1/92 | 11/7/92 |

OFFICIAL RECORD

DOCUMENT NAME: CLI81047.AMD

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PDR ADDCK 05000461
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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. 66
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 July 1, 1991, 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:

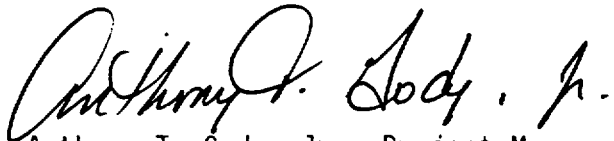
*Illinois Power Company is authorized to act as agent for Soyland Power Cooperative, Inc., and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

(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. 66, 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



Anthony T. Gody, Jr., Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: October 16, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 66

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. The corresponding overleaf pages are provided to maintain document completeness.

Remove

3/4 3-21

3/4 3-22

3/4 3-23

Insert

3/4 3-21

3/4 3-22

3/4 3-23

TABLE 3.3.2-2 (Continued)

CRVICS INSTRUMENTATION SETPOINTS

| <u>TRIP FUNCTION</u> | <u>TRIP SETPOINT</u> | <u>ALLOWABLE VALUE</u> |
|--|--|--|
| 1. <u>PRIMARY AND SECONDARY CONTAINMENT ISOLATION (Continued)</u> | | |
| k. Containment Pressure - High | ≤ 2.50 psid | ≤ 3.00 psid |
| l. Main Steam Line Radiation - High | $\leq 3.0 \times$ full power background* | $\leq 3.6 \times$ full power background* |
| m. Fuel Building Exhaust Radiation - High | ≤ 10 mR/hr | ≤ 17 mR/hr |
| n. Manual Initiation | NA | NA |
| 2. <u>MAIN STEAM LINE ISOLATION</u> | | |
| a. Reactor Vessel Water Level - Low Low Low, Level 1 | ≥ -145.5 in.* | ≥ -147.7 in. |
| b. Main Steam Line Radiation - High | $\leq 3.0 \times$ full power background* | $\leq 3.6 \times$ full power background* |
| c. Main Steam Line Pressure - Low | ≥ 849 psig | ≥ 837 psig |
| d. Main Steam Line Flow - High | ≤ 170 psid | ≤ 178 psid |
| e. Condenser Vacuum - Low | ≥ 8.5 in. Hg vacuum | ≥ 7.6 in. Hg vacuum |
| f. Main Steam Line Tunnel Temp. - High | $\leq 156^\circ\text{F}$ | $\leq 171^\circ\text{F}$ |
| g. Main Steam Line Tunnel Δ Temp. - High | $\leq 54.5^\circ\text{F}$ | $\leq 63^\circ\text{F}$ |
| h. Main Steam Line Turbine Bldg. Temp. - High | | |
| (1) 1E31 - N559 A, B, C, D 1E31 - N560 A, B, C, D 1E31 - N561 A, B, C, D 1E31 - N562 A, B, C, D | $\leq 131.2^\circ\text{F}$ | $\leq 142^\circ\text{F}$ |
| (2) 1E31 - N563 A, B, C, D | $\leq 139.5^\circ\text{F}$ | $\leq 150^\circ\text{F}$ |
| i. Manual Initiation | NA | NA |

TABLE 3.3.2-2 (Continued)
CRVICS INSTRUMENTATION SETPOINTS

| <u>TRIP FUNCTION</u> | <u>TRIP SETPOINT</u> | <u>ALLOWABLE VALUE</u> | |
|--|-------------------------------------|--------------------------------------|--|
| 3. <u>REACTOR WATER CLEANUP SYSTEM ISOLATION</u> | | | |
| a. Δ Flow - High | ≤ 59 gpm | ≤ 66.1 gpm | |
| b. Δ Flow Timer | ≥ 45 sec. | ≤ 47 sec. | |
| c. Equipment Area Temp. - High | | | |
| 1. Pump Rooms - A, B, C | $\leq 186.5^{\circ}\text{F}$ | $\leq 202^{\circ}\text{F}$ | |
| 2. Heat Exchanger Rooms - East, West | $\leq 190^{\circ}\text{F}$ | $\leq 205^{\circ}\text{F}$ | |
| d. Equipment Area Δ Temp. - High | | | |
| 1. Pump Rooms - A, B, C | $\leq 54.5^{\circ}\text{F}$ | $\leq 63^{\circ}\text{F}$ | |
| 2. Heat Exchanger Rooms - East, West | $\leq 54.5^{\circ}\text{F}$ | $\leq 63^{\circ}\text{F}$ | |
| e. Reactor Vessel Water Level - Low Low, Level 2 | ≥ -45.5 in.* | ≥ -47.7 in. | |
| f. Main Steam Line Tunnel Ambient Temp. - High | $\leq 156^{\circ}\text{F}$ | $\leq 171^{\circ}\text{F}$ | |
| g. Main Steam Line Tunnel Δ Temp. - High | $\leq 54.5^{\circ}\text{F}$ | $\leq 63^{\circ}\text{F}$ | |
| h. SLCS Initiation | NA | NA | |
| i. Manual Initiation | NA | NA | |
| 4. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION</u> | | | |
| a. RCIC Steam Line Flow - High | ≤ 110 in. H_2O | ≤ 118.5 in H_2O | |
| b. RCIC Steam Line Flow - High Timer | ≥ 3 sec. | ≤ 13 sec. | |
| c. RCIC Steam Supply Pressure - Low | ≥ 60 psig | ≥ 52 psig | |
| d. RCIC Turbine Exhaust Diaphragm Pressure - High | ≤ 10 psig | ≤ 20 psig | |

TABLE 3.3.2-2 (Continued)
CRVICS INSTRUMENTATION SETPOINTS

| <u>TRIP FUNCTION</u> | <u>TRIP SETPOINT</u> | <u>ALLOWABLE VALUE</u> |
|---|--------------------------------------|------------------------------------|
| 4. <u>REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION (Continued)</u> | | |
| e. RCIC Equipment Room Ambient Temp. - High | $\leq 192^{\circ}\text{F}$ | $\leq 207^{\circ}\text{F}$ |
| f. RCIC Equipment Room Δ Temp. - High | $\leq 34.5^{\circ}\text{F}$ | $\leq 43^{\circ}\text{F}$ |
| g. Main Steam Line Tunnel Ambient Temp. - High | $\leq 156^{\circ}\text{F}$ | $\leq 171^{\circ}\text{F}$ |
| h. Main Steam Line Tunnel Δ Temp. - High | $\leq 54.5^{\circ}\text{F}$ | $\leq 63^{\circ}\text{F}$ |
| i. Main Steam Line Tunnel Temp. Timer | $\geq 25 \text{ min.}$ | $\leq 28 \text{ min.}$ |
| j. Drywell Pressure - High | $\leq 1.68 \text{ psig}$ | $\leq 1.88 \text{ psig}$ |
| k. Manual Initiation | NA | NA |
| l. RHR/RCIC Steam Line Flow - High | $\leq 179.5 \text{ in. H}_2\text{O}$ | $\leq 188 \text{ in. H}_2\text{O}$ |
| m. RHR Heat Exchanger A, B Ambient Temperature - High | $\leq 144.5^{\circ}\text{F}$ | $\leq 160^{\circ}\text{F}$ |
| n. RHR Heat Exchanger A, B Δ Temp. - High | $\leq 71.9^{\circ}\text{F}$ | $\leq 79.6^{\circ}\text{F}$ |
| 5. <u>RHR SYSTEM ISOLATION</u> | | |
| a. RHR Heat Exchanger Rooms A, B Ambient Temperature - High | $\leq 144.5^{\circ}\text{F}$ | $\leq 160^{\circ}\text{F}$ |
| b. RHR Heat Exchanger Rooms A, B Δ Temperature - High | $\leq 71.9^{\circ}\text{F}$ | $\leq 79.6^{\circ}\text{F}$ |

TABLE 3.3.2-2 (Continued)
CRVICS INSTRUMENTATION SETPOINTS

| <u>TRIP FUNCTION</u> | <u>TRIP SETPOINT</u> | <u>ALLOWABLE VALUE</u> |
|--|-----------------------------|---------------------------|
| 5. <u>RHR SYSTEM ISOLATION (Continued)</u> | | |
| c. Reactor Vessel Water Level - Low, Level 3 | $\geq 8.9 \text{ in.}^*$ | $\geq 8.3 \text{ in.}$ |
| d. Reactor Vessel Water Level - Low Low Low, Level 1 | $\geq -145.5 \text{ in.}^*$ | $\geq -147.7 \text{ in.}$ |
| e. Reactor Vessel (RHR Cut-in Permissive) Pressure - High | $\leq 135 \text{ psig}$ | $\leq 150 \text{ psig}$ |
| f. Drywell Pressure - High | | |
| 1) Containment Spray | $\leq 1.68 \text{ psig}$ | $\leq 1.88 \text{ psig}$ |
| 2) Fuel Pool Cooling | $\leq 1.68 \text{ psig}$ | $\leq 1.88 \text{ psig}$ |
| g. Manual Initiation | NA | NA |

*See Bases Figure B 3/4 3-1.

Within 24 hours prior to the planned start of the hydrogen injection test, with reactor power at greater than 20% of RATED THERMAL POWER, the normal full power background radiation level and associated trip setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip setpoints may be adjusted during the test based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be verified and the associated trip setpoints shall be returned to their normal value within 24 hours of re-establishing normal radiation levels after completion of the hydrogen injection test at greater than 20% of RATED THERMAL POWER or within 12 hours of establishing reactor power levels below 20% of RATED THERMAL POWER.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 66 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 July 1, 1991, Illinois Power Company (IP) proposed changes to Clinton Power Station (CPS) Technical Specifications (TS). The changes are in the instrument setpoints (SP) and allowable values (AV) for various "Containment and Reactor Vessel Isolation Control Systems" (CRVICS) trip functions. These trip functions perform primary and secondary containment isolation (CI), main steam line isolation (MSLI), reactor water cleanup system isolation (RWCI), reactor core isolation cooling system isolation (RCICI), and residual heat removal system isolation (RHRI). The existing trip setpoints and allowable values of the instruments in the Architect Engineer's (Sargent and Lundy (S&L)) scope of design were calculated assuming a 6-month calibration interval, whereas those in the Nuclear Steam Supply System vendor's (General Electric) scope of design were based on an 18-month calibration interval. The CPS Technical Specification and Plant Calibration Procedures allow instrument calibration to be performed at 18-month intervals. Consequently, the S&L design scope instrument setpoints and allowable values are recalculated considering an 18-month calibration interval. Additionally, due to the revised cooling water flow rates and more advanced, yet conservative modeling of the heat exchanger performance, the leak detection temperature calculations were revised. The results of these revised calculations formed the basis for a subsequent revision to the leak detection instruments setpoint calculations. The new setpoints and/or allowable values were calculated using 18-month calibration interval and revised leak detection temperature.

2.0 EVALUATION

Except for one item, all of the CRVICS instrumentation channels affected by the proposed changes are associated with the primary coolant leak detection system. The purpose of the leak detection system instrumentation is to monitor leakage from the reactor coolant pressure boundary and initiate an alarm and/or an isolation function before the predetermined temperature limits are exceeded. The CPS Updated Safety Analysis Report (USAR) identifies that these temperature instrument setpoints initiate the required safety function when temperature rise in the monitored area is due to a 25-gpm equivalent steam leak, assuming the area ventilation system is operating as designed. The leak detection system temperature monitors are located in equipment areas in the Auxiliary Building, main steam tunnel, and the Turbine Building. The

licensee's revised calculations resulted in changes to setpoint values which, for the most part, were in the conservative direction. Allowable value changes which were in the nonconservative direction were a result of revised room temperature calculations for a 25-gpm leak (analytical limit for the instrument setpoint variation due to the instrument inaccuracy, calibration uncertainties, and drift allowance during the 18-month calibration interval). IP confirmed that the proposed trip setpoint and the allowable values were established in accordance with the methodology of Regulatory Guide 1.105, "Instrument Setpoints." The licensee also confirmed that in all cases, a 25-gpm equivalent steam leak will be isolated within the time specified in the CPS USAR.

The staff's review of the proposed changes to the setpoint and allowable values of CRVIC system instrumentation channels supports the licensee's justification for the proposed changes. Each of the conservative changes in the instrument setpoint is made to avoid spurious initiation of the safety function during normal plant operations (i.e., the setpoint is greater than the maximum expected ambient temperature in the monitored area). Each of the nonconservative changes (increased trip setpoint and/or allowable value) is less than or equal to the conservatively calculated temperature rise due to a 25-gpm equivalent steam leak in the area where the ventilation system is in operation. The increased allowable values also ensure that the 25-gpm equivalent steam leak is isolated in sufficient time to avoid adverse effects on the qualification of the safe-shutdown components in the respective areas. The only instrument in the proposed changes that is not associated with the primary coolant heat detection system is the containment pressure monitor which initiates primary and secondary containment isolation for high containment pressure. This change in the instrument trip setpoint is in a conservative direction (i.e., less than the existing setpoint value of the pressure transmitter). The proposed change is conservative and the trip setpoint is well above the design containment pressure during normal plant operating conditions so as to avoid spurious initiation of the safety functions during plant operation.

Based on the above evaluation, the staff concludes that the proposed changes to the setpoint and/or allowable values of CRVICS instrumentation are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the appropriate 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 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 (56 FR 37584). 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 Contributor: I. Ahmed

Date: October 16, 1992