

March 18, 1988

Docket No. 50-461

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

SUBJECT: EXEMPTION FROM 10 CFR PART 50, APPENDIX J (TAC NO. 67162)

Re: Clinton Power Station, Unit 1

On January 13, 1988, Illinois Power Company\* (IP), Soyland Power Cooperative, Inc. and Western Illinois Power Cooperative, Inc. (the licensee) requested an exemption from 10 CFR Part 50, Appendix J, Section III.D.3 for certain containment isolation valves at the Clinton Power Station, Unit No. 1. Specifically, a schedular exemption was requested from the requirement to perform Type C tests at each reactor shutdown for refueling but in no case at intervals greater than two years in order to allow for these tests to be conducted during the first refueling outage for Unit 1. The licensees also submitted a related Technical Specification change request to the Clinton Power Station, Unit 1 license by application dated December 10, 1987. In response to a staff request, the licensees provided additional information supporting the exemption and license amendment requests by letter dated January 29, 1988.

We have completed our review of your exemption request. Our review of your amendment request is being forwarded by separate letter. We have determined that the requested exemption may be granted. We note that you have committed to performing Type C local leak rate tests (LLRTs) for the valves under consideration during the first refueling outage for Unit 1. This outage, which is currently scheduled to be initiated in January of 1989, must be initiated by no later than February 28, 1989. These tests must be performed prior to when containment integrity needs to be assured following the refueling operation.

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

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Mr. Frank Spangenberg

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The Commission has issued the enclosed one-time schedular Exemption from 10 CFR Part 50, Appendix J, Section III.D.3, for certain containment isolation valves at the Clinton Power Station, Unit 1, to the extent that it requires Type C LLRTs to be performed at intervals not to exceed two years. On 1988 we sent you our Environmental Assessment and Finding of No Significant Impact which was published in the Federal Register on ( FR ).

Sincerely,

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Daniel R. Muller, Director  
Project Directorate III-2  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Exemption

cc: See next page

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LLuther  
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PDIII-2:PM  
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SPLB:PLST  
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Mr. Frank A. Spangenberg, III  
Illinois Power Company

Clinton Power Station  
Unit 1

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Chicago, Illinois 60603

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of  
THE ILLINOIS POWER COMPANY, ET AL  
(Clinton Power Station, Unit 1)

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Docket No. 50-461

EXEMPTION

I.

The Illinois Power Company\*(IP), Soyland Power Cooperative, Inc. and Western Illinois Power Cooperative, Inc. (the licensees) are the holders of Facility Operating License No. NPF-62 which authorizes operation of the Clinton Power Station, Unit 1 (the facility) at steady-state reactor power levels not in excess of 2894 megawatts thermal. The license provides, among other things, that it is subject to all rules, regulations, and Orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility is a boiling water reactor (BWR) located at the licensees' site in DeWitt County, Illinois.

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

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## II.

10 CFR Part 50, Appendix J, Section III.D.3, states:

Type C tests. Type C tests should be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years.

These tests would become due at the Clinton Power Station, Unit 1, for certain containment isolation valves which are the subject of this Exemption, by October 21, 1988. The tests necessary to meet this section of Appendix J to 10 CFR Part 50 are required by Technical Specification 4.6.1.2 of the Clinton Power Station, Unit 1, Technical Specifications.

On January 13, 1988, the licensees submitted a request for exemption from Section III.D.3 of Appendix J to 10 CFR Part 50 for the Clinton Power Station, Unit 1, for eight containment isolation valves. The licensees proposed to perform Type C local leak rate tests (LLRTs) of these valves prior to startup from the first refueling outage for Unit No. 1 (scheduled to be initiated in January of 1989) in lieu of the 2-year interval required by Section III.D.3. The licensees also submitted by separate correspondence dated December 10, 1987, a related Technical Specification change request to the Clinton Power Station, Unit 1 license which would revise Technical Specification 4.6.1.2 to be consistent with the requested exemption. The licensees also responded to the Commission's staff request for additional information related to the exemption and amendment request by letter dated January 29, 1988.

In accordance with 10 CFR Part 50.12(a)(2), the licensees have stated that special circumstances are present which support the requested exemption. Particularly, with respect to 10 CFR 50.12(a)(2)(ii) and (v), the licensees state that the following special circumstances exist:

50.12(a)(2)(ii) - The purpose of 10 CFR 50 Appendix J testing is to assure that (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in the Technical Specifications or associated bases and (b) periodic surveillance of reactor containment penetrations and isolation valves is performed so that proper maintenance and repairs are made during the service life of the containment, and systems and components penetrating primary containment.

The containment leakage rate is primarily affected by equipment wear and maintenance. Isolation valves typically see little usage (especially test connections, vents and drain valves) except for periodic operability testing. This leads to little degradation of equipment or increase in the leakage rate. From October 21, 1988 to the first refueling outage, which must be initiated by no later than February 28, 1989, these valves will be subjected to minimal wear. These valves were last tested on October 21, 1986, shortly after the fuel was initially loaded into the core.

Redundancy regarding primary containment isolation is provided by two isolation valves in series or one isolation valve bounded by a closed loop outside containment. Consequently, a reduction in the effectiveness of one valve to provide a seal would not itself compromise containment integrity. Deterioration of the overall integrity of the containment penetrations is normally a gradual process. Considering the redundancy of the isolation barriers, the short duration of the requested extension of the testing interval and the limited number of valves affected, any reduction in the containment integrity during the extension period would be negligible.

These valves have not required maintenance since last tested on October 21, 1986. These valves are tested during cold shutdown, and to date, data from past testing shows leakage to be well within acceptable limits. Similar valves will be tested during the spring 1988 maintenance outage, and any excessive leakage or other degraded valve conditions indicative of a generic condition will be evaluated at that time.

50.12(a)(2)(v) - IP is requesting a temporary exemption to the requirements of 10 CFR 50 Appendix J paragraph III.D.3 for a limited number (eight) of Containment Isolation Valves. All other Containment Isolation Valves at CPS are in compliance with these requirements. IP will be in complete compliance with 10 CFR 50 Appendix J paragraph III.D.3 after startup from the first refueling outage.

## III.

The Commission's staff has determined that the licensees' request for extension of the requested containment isolation valve Type C LLRTs until the first refueling outage is acceptable based on the following considerations:

1. The favorable results of previous leakage tests performed at the Clinton Power Station, Unit 1, on these valves, coupled with their small contribution to allowable leakage, confirmatory industry experience and expected gradual deterioration of valves of these types provide reasonable assurance and confidence that granting the requested schedular exemption will not result in a significant decrease in the integrity of the containment boundary.
2. Similar valves will be tested during the spring 1988 maintenance outage and any excessive leakage or other degraded valve conditions indicative of a generic condition will be evaluated by IP at that time.
3. Leak testing of the penetrations during plant shutdown is preferable because of the lower radiation exposures to plant personnel. Moreover, some valves, because of their intended functions, cannot be tested during power operations. For valves that cannot be tested during power operations or those that, if tested during power operation would cause a degradation in the plant's overall safety (e.g., the closing of a redundant line in a safety system), the increase in confidence of containment integrity and reactor coolant pressure boundary integrity following a successful test is not significant

enough to justify either extending the 1988 maintenance outage by about one week or having a plant shutdown specifically to perform the LLRTs within the 2-year period, as long as the valves are in compliance with items 1 and 2 above. The drywell head has not been removed since it was initially bolted down on October 21, 1986; thus there has not been a ready opportunity to perform these tests to date.

For details with respect to the staff's evaluation see the Safety Evaluation Supporting Amendment to Facility Operating License No. NPF-62 dated March 18, 1988.

The Commission's staff has reviewed the licensees' description of the special circumstances relative to this exception request and has determined that there are special circumstances in this instance which satisfy 10 CFR 50.12(a)(2)(ii) in that application of the regulation for the circumstances requested is not necessary to achieve the underlying purpose of the rule. The 2-year interval testing requirement for Type B and C penetrations is intended to be often enough to prevent significant deterioration from occurring and long enough to permit LLRTs to be performed during plant outages. In this case the penetrations at issue were last leak tested in October 1986 shortly after initial fuel loading. A full power license was issued in April 1987 and the reactor reached 100% power during September 1987. As a result of delays in attaining full power, an occurrence common to initial startup activities, the first refueling outage for the Clinton facility is scheduled to be initiated by no later than February 28, 1989, approximately four months longer than two years since the last type B and C tests on these penetrations. However, the

plant will not have accumulated two full years of power operation by the end of the first refueling outage, and the integrated temperature/pressure profiles experienced by the valves considered in this one-time limited extension of the test interval will not be significantly greater than that expected for subsequent refueling cycle test intervals. Moreover, initial tests on these valves showed very little leakage and since the facility has just commenced operation, little deterioration of the valves is expected during these early years of operating life. Accordingly, in these circumstances the staff concludes that conducting the type B and C tests of these valves before the end of the two year interval is not necessary to provide assurance of adequate leakage integrity of the affected penetrations. Moreover, delaying the tests until shutdown, a matter of up to four months, will help to limit occupational radiation exposure.

#### IV.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the requested exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Further, the Commission finds that special circumstances are present in that the requested exemption is temporary in nature, the application of the regulation during this limited period is not necessary to achieve the underlying purpose of the rule, and the licensees have made a good faith effort to comply with the regulation. Therefore, the Commission hereby grants the following Exemption from the requirements of Section III.D.3 of Appendix J to 10 CFR Part 50:

The 2-year limit on the Type C testing interval for the eight valves identified in the licensees' January 13, 1988, request for exemption is extended on a one-time basis until prior to startup from the first refueling outage for the Clinton Power Station, Unit 1, provided the licensees conduct these tests prior to when containment integrity must be assured following the refueling operation.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the environment (53 FR 8825 dated March 17, 1988).

A copy of the Commission's Safety Evaluation referred to in this Exemption is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555, and at the local public document room located at the Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

A copy may be obtained upon written request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects - III, IV, V and Special Projects.

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Dennis M. Crutchfield, Director  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland  
this 18th day of March 1988