

March 18, 1988

DISTRIBUTION:

Docket No. 50-461

Docket File
NRC & Local PDRs
PDIII-2 r/f
LLuther
JStevens

PD Plant File
ACRS (10)
JPartlow
EJordan

Mr. Frank Spangenberg
Manager-Licensing and Safety
Clinton Power Station
P.O. Box 678
Mail Code V920
Clinton, Illinois 61727

Dear Mr. Spangenberg:

SUBJECT: TECHNICAL SPECIFICATION CHANGE REQUEST TO EXTEND SPECIFIED VALVE
LOCAL LEAK RATE TESTS (LLRTs) (TAC NO. 66811)

Re: Clinton Power Station, Unit 1

The Commission has issued the enclosed Amendment No. 1 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 10, 1987, as supplemented January 29, 1988.

This amendment revises Technical Specification Sections 4.4.3.2.2 and 4.6.1.2 to extend specified valve local leak rate tests (LLRTs) until the first refueling outage. This outage, currently scheduled to be initiated in January of 1989, must be initiated by no later than February 28, 1989. These tests, which would otherwise begin to become overdue on May 17, 1988, must be performed prior to when containment integrity needs to be assured following the refueling operation.

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

Sincerely,

151

Janice A. Stevens, Project Manager
Project Directorate III-2
Division of Reactor Projects - III,
IV, V and Special Projects

8803280114 880318
PDR ADDCK 05000461
P PDR

Enclosures:

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

cc w/enclosures:

See next page

PDIII-2 <i>gas</i>	PDIII-2 <i>jj</i>	MEB <i>ES</i>	PDIII-2 <i>mm</i>
JStevens <i>lw</i>	LLuther	for Marsh	DMiller
3/9/88	3/10/88	3/11/88	3/11/88

Handwritten notes:
COC-WF
myocong
3/15/88
Handwritten initials and dates

Handwritten notes:
SPLBIAEST
JW Craig
3/11/88

Mr. Frank A. Spangenberg, III
Illinois Power Company

Clinton Power Station
Unit 1

cc:

Mr. D. P. Hall
Vice President
Clinton Power Station
P.O. Box 678
Clinton, Illinois 61727

Mr. L. Larson
Project Manager
General Electric Company
175 Curtner Avenue, N/C 395
San Jose, California 95125

Mr. R. D. Freeman
Manager-Nuclear Station Engineering Dpt.
Clinton Power Station
P.O. Box 678
Clinton, Illinois 61727

Regional Administrator, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Sheldon Zabel, Esquire
Schiff, Hardin & Waite
7200 Sears Tower
233 Wacker Drive
Chicago, Illinois 60606

Chairman of DeWitt County
c/o County Clerk's Office
DeWitt County Courthouse
Clinton, Illinois 61727

Resident Inspector
U.S. Nuclear Regulatory Commission
RR 3, Box 229 A
Clinton, Illinois 61727

Illinois Department
of Nuclear Safety
Division of Engineering
1035 Outer Park Drive, 5th Floor
Springfield, Illinois 62704

Mr. Donald Schopfer
Project Manager
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603



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. 1
License No. NPF-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Illinois Power Company* (IP), Soyland Power Cooperative, Inc. and Western Illinois Power Cooperative, Inc. (the licensees) dated December 10, 1987, and supplemented January 29, 1988, 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:

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

8803280120 880318
PDR ADDCK 05000461
P PDR

*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.

Amendment No. 1, are hereby incorporated into this license. IP 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 18, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 1

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. Overleaf page(s) are provided to maintain document completeness.

Remove

3/4 4-14

3/4 6-4

Insert

3/4 4-14

3/4 6-4

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

SURVEILLANCE REQUIREMENTS (Continued)

4.4.3.2.1 (Continued)

- d. Monitoring the reactor vessel head flange leak detection system at least once per 24 hours.

4.4.3.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4.3.2-1 shall be demonstrated OPERABLE by leak testing pursuant to Specification 4.0.5 and verifying the leakage of each valve to be within the specified limit:

- a. At least once per 18 months.*
- b. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve or its associated actuator.
- c. As outlined in ASME Code, Section XI, paragraph IWV-3427(b).

The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 3.

*The requirements of this specification for valves 1E12F023, 1E51F066, and 1E51F013 will not be completed until prior to startup following the first refueling outage.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT LEAKAGE

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.2 (Continued)

2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
3. Requires the quantity of gas injected into the primary containment or bled from the primary containment during the supplemental test to be between 0.75 La and 1.25 La.
- d. Type B and C tests shall be conducted with gas at Pa, 9.0 psig*, at intervals no greater than 24 months except for tests involving:**
 1. Air locks,
 2. Main steam line isolation valves,
 3. Penetrations using continuous leakage monitoring systems,
 4. All containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment, and
 5. Purge supply and exhaust isolation valves with resilient material seals.
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at Pa, 9.0 psig, at every other reactor shutdown for refueling, but in no case at intervals no greater than once per 3 years.
- h. All containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment shall be leak tested at least once per 18 months.
- i. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.8.3.
- j. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2.a, 4.6.1.2.b, 4.6.1.2.d, and 4.6.1.2.g.

*Unless a hydrostatic test is required per Table 3.6.4-1.

**The requirements of this specification for valves 1E12-F023, 1E51-F034, 1E51-F035, 1E51-F390, 1E51-F391, 1E12-F061, 1E12-F062, and 1E51-F013 will not be completed until prior to startup following the first refueling outage.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 1 TO FACILITY OPERATING LICENSE NO. NPF-62

ILLINOIS POWER COMPANY, ET AL

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated December 10, 1987, as supplemented January 29, 1988, the Illinois Power Company (IP), et al (the licensees) requested an amendment to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit 1. The proposed amendment would extend the interval for nine specified containment isolation or pressure isolation valve local leak rate tests (LLRTs) until the first refueling outage. Two of these valves (1E12-F023 and 1E51-F013) are both containment isolation valves and pressure isolation valves. The first refueling outage, currently scheduled to be initiated in January of 1989, must be initiated by no later than February 28, 1989. The LLRTs for these valves, which would otherwise begin to become overdue on May 17, 1988, must be performed prior to when containment integrity needs to be assured following the refueling operation.

By a separate letter dated January 13, 1988, the licensees also requested a one-time exemption from the schedular requirements of Section III.D.3 of Appendix J to 10 CFR Part 50 concerning LLRT testing intervals for all of the containment isolation valves (eight of these valves). That exemption request was granted separately in an Exemption dated March 18, 1988.

The February 10, 1988 Federal Register notice concerning this action mistakenly referenced an October 30, 1987 submittal date for this proposed action.

2.0 EVALUATION

Technical Specification 4.6.1.2.d requires LLRTs (Type C tests) on the primary containment isolation valves listed in Table 3.6.4-1 to be performed at intervals no greater than 24 months except for containment isolation valves in hydrostatically tested lines penetrating the primary containment, which shall be leak tested at least once per 18 months per Technical Specification 4.6.1.2.h. The Commission's regulations (10 CFR 50, Appendix J, Section III.D.3) require

8803280127 880318
PDR ADOCK 05000461
P PDR

LLRTs (Type C tests) to be performed during each reactor shutdown for refueling, but in no case at intervals greater than 2 years. Technical Specification 4.4.3.2.2.a requires leak rate tests for Reactor Coolant System pressure isolation valves (PIVs) listed in Table 3.4.3.2-1 to be performed at least once per 18 months. An additional 25 percent may be added to the 18-month interval per Specification 4.0.2.a. The licensees have requested that the initial 18 and 24-month testing intervals for the nine valves be extended on a one-time basis until the first refueling outage presently scheduled for the spring of 1989, or June 15, 1989, whichever comes first. These valves would otherwise become overdue for testing between May 17 and October 21, 1988.

The licensees have indicated that performing the leak testing on these nine valves will require the removal of the drywell head and the disassembly of the reactor head spray piping to allow installation of a blind flange as an inboard test boundary. Reassembly of the reactor head spray piping will require that a reactor coolant system boundary leakage test be performed in accordance with the ASME code. The licensees estimate that these tasks would extend the spring 1988 maintenance outage by about one week, and cause additional personnel exposure of approximately one to two Man-Rem.

The first refueling outage is scheduled to be initiated in January of 1989. Drywell head removal and a reactor coolant boundary leakage test will be required during this outage. Performance of the leak tests for these containment isolation and pressure isolation valves during this outage would bring the test schedule into alignment with the fuel cycle. Thus, the licensee indicated that the time to perform the required testing has been accounted for in planning the first refueling outage. If IP encounters a problem prior to the first refueling outage which entails removal of the drywell head and disassembly of the reactor head spray piping, the required leakage tests will be performed in order to return to full compliance.

The 2-year and 18-month + 25% testing intervals for containment isolation and reactor coolant pressure isolation valves, respectively, are intended to be often enough to prevent significant deterioration from occurring and long enough to permit LLRTs to be performed during plant outages. This provides added assurance of Reactor Coolant System valve integrity thereby reducing the probability of gross valve failure and consequent intersystem loss of coolant accident. It also provides assurance that the overall containment leakage limits will not exceed the value assumed in the accident analysis, even when accounting for possible degradation of the leakage barriers between leakage tests.

The licensees have stated that the isolation valves, which are the subject of this amendment request and the related exemption request to Appendix J of 10 CFR Part 50, were all tested successfully in 1986. The total of the Type C leakage rates for these valves is not a significant portion (1.58%) of the allowable leakage limit (0.6 L_g). Reactor Coolant System PIV leakage rates are all less than their allowable leakage rates, whose values are normally exceedingly low. Deterioration in the overall integrity of non-flow modulating

(either full open or full closed) isolation valves is normally expected to be a gradual process. The licensees provided the following information relative to industry performance of these valves as a comparative check to the Clinton Power Station valve performance history.

The licensees performed an inspection of industry related information on failure of Anchor-Darling and Yarway valves. Information on past performance of these valve types gathered through the Nuclear Plant Reliability Data System (NPRDS) shows that: Anchor-Darling 6" gate valves have a 1.5% probability of a leakage related failure during the 238 day extension requested, Anchor-Darling 4" globe valves have a 0.84% probability of a leakage related failure during the 238 day extension requested, and Yarway globe valves (1/2" to 2.0") have a 0.045% probability of failure during the 238 day extension requested. No previous failures of 3/4" Yarway globe valves were reported.

The NRC staff has determined that the licensees' request for extension of the requested Reactor Coolant System pressure isolation valve and containment isolation valve LLRTs until the first refueling outage will not present a significant safety concern and is therefore acceptable based on the following considerations:

1. The favorable results of previous LLRTs performed at the Clinton Power Station coupled with the small contribution to allowable leakage, confirmatory industry experience and expected gradual deterioration of valves of these types provide reasonable assurance that the granting of the requested extension 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. The 24-month interval requirement for Type B and C penetrations is intended to be often enough to prevent significant deterioration from occurring and long enough to permit the LLRTs to be performed during plant outages.

The valves cannot be tested during power operation since drywell head removal and reactor head spray piping disassembly are required. 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 1 week or having a plant shutdown specifically to perform the LLRTs within the 24-month time period, as long as the valves are in compliance with Items 1 and 2 above.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in the surveillance requirements. We have 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 or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

We have 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: Janice A. Stevens

Dated: March 18, 1988

March 18, 1988

Docket No. 50-461

DISTRIBUTION:

Docket File
NRC & Local PDRs
PDIII-2 r/f
LLuther
JStevens

PD Plant File
ACRS (10)
JPartlow
EJordan

Mr. Frank Spangenberg
Manager-Licensing and Safety
Clinton Power Station
P.O. Box 678
Mail Code V920
Clinton, Illinois 61727

Dear Mr. Spangenberg:

SUBJECT: TECHNICAL SPECIFICATION CHANGE REQUEST TO EXTEND SPECIFIED VALVE LOCAL LEAK RATE TESTS (LLRTs) (TAC NO. 66811)

Re: Clinton Power Station, Unit 1

The Commission has issued the enclosed Amendment No. 1 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated December 10, 1987, as supplemented January 29, 1988.

This amendment revises Technical Specification Sections 4.4.3.2.2 and 4.6.1.2 to extend specified valve local leak rate tests (LLRTs) until the first refueling outage. This outage, currently scheduled to be initiated in January of 1989, must be initiated by no later than February 28, 1989. These tests, which would otherwise begin to become overdue on May 17, 1988, must be performed prior to when containment integrity needs to be assured following the refueling operation.

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

Sincerely,

171

Janice A. Stevens, Project Manager
Project Directorate III-2
Division of Reactor Projects - III,
IV, V and Special Projects

Enclosures:

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

cc w/enclosures:
See next page

PDIII-2 <i>ad</i>	PDIII-2 <i>ll</i>	MEB <i>EB</i>	PDIII-2 <i>DM</i>
JStevens <i>DM</i>	LLuther <i>for</i>	Marshall <i>for</i>	DMiller
3/9/88	3/10/88	3/11/88	3/11/88

Handwritten notes:
GC-WF
myocun
3/15/88

Handwritten notes:
SPECIALIST
JHCratg
3/11/88

Handwritten:
8803280114
2pp

Mr. Frank A. Spangenberg, III
Illinois Power Company

Clinton Power Station
Unit 1

cc:

Mr. D. P. Hall
Vice President
Clinton Power Station
P.O. Box 678
Clinton, Illinois 61727

Mr. L. Larson
Project Manager
General Electric Company
175 Curtner Avenue, N/C 395
San Jose, California 95125

Mr. R. D. Freeman
Manager-Nuclear Station Engineering Dpt.
Clinton Power Station
P.O. Box 678
Clinton, Illinois 61727

Regional Administrator, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Sheldon Zabel, Esquire
Schiff, Hardin & Waite
7200 Sears Tower
233 Wacker Drive
Chicago, Illinois 60606

Chairman of DeWitt County
c/o County Clerk's Office
DeWitt County Courthouse
Clinton, Illinois 61727

Resident Inspector
U.S. Nuclear Regulatory Commission
RR 3, Box 229 A
Clinton, Illinois 61727

Illinois Department
of Nuclear Safety
Division of Engineering
1035 Outer Park Drive, 5th Floor
Springfield, Illinois 62704

Mr. Donald Schopfer
Project Manager
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603



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. 1
License No. NPF-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Illinois Power Company* (IP), Soyland Power Cooperative, Inc. and Western Illinois Power Cooperative, Inc. (the licensees) dated December 10, 1987, and supplemented January 29, 1988, 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:

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

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.

Amendment No. 1, are hereby incorporated into this license. IP 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 18, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 1

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. Overleaf page(s) are provided to maintain document completeness.

Remove

3/4 4-14

3/4 6-4

Insert

3/4 4-14

3/4 6-4

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

SURVEILLANCE REQUIREMENTS (Continued)

4.4.3.2.1 (Continued)

- d. Monitoring the reactor vessel head flange leak detection system at least once per 24 hours.

4.4.3.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4.3.2-1 shall be demonstrated OPERABLE by leak testing pursuant to Specification 4.0.5 and verifying the leakage of each valve to be within the specified limit:

- a. At least once per 18 months.*
- b. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve or its associated actuator.
- c. As outlined in ASME Code, Section XI, paragraph IWV-3427(b).

The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 3.

*The requirements of this specification for valves 1E12F023, 1E51F066, and 1E51F013 will not be completed until prior to startup following the first refueling outage.

CONTAINMENT SYSTEMS

PRIMARY CONTAINMENT LEAKAGE

SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.2 (Continued)

2. Has duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
3. Requires the quantity of gas injected into the primary containment or bled from the primary containment during the supplemental test to be between 0.75 La and 1.25 La.
- d. Type B and C tests shall be conducted with gas at Pa, 9.0 psig*, at intervals no greater than 24 months except for tests involving:**
 1. Air locks,
 2. Main steam line isolation valves,
 3. Penetrations using continuous leakage monitoring systems,
 4. All containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment, and
 5. Purge supply and exhaust isolation valves with resilient material seals.
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at Pa, 9.0 psig, at every other reactor shutdown for refueling, but in no case at intervals no greater than once per 3 years.
- h. All containment isolation valves in hydrostatically tested lines per Table 3.6.4-1 which penetrate the primary containment shall be leak tested at least once per 18 months.
- i. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.8.3.
- j. The provisions of Specification 4.0.2 are not applicable to Specifications 4.6.1.2.a, 4.6.1.2.b, 4.6.1.2.d, and 4.6.1.2.g.

*Unless a hydrostatic test is required per Table 3.6.4-1.

**The requirements of this specification for valves 1E12-F023, 1E51-F034, 1E51-F035, 1E51-F390, 1E51-F391, 1E12-F061, 1E12-F062, and 1E51-F013 will not be completed until prior to startup following the first refueling outage.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 1 TO FACILITY OPERATING LICENSE NO. NPF-62

ILLINOIS POWER COMPANY, ET AL

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated December 10, 1987, as supplemented January 29, 1988, the Illinois Power Company (IP), et al (the licensees) requested an amendment to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit 1. The proposed amendment would extend the interval for nine specified containment isolation or pressure isolation valve local leak rate tests (LLRTs) until the first refueling outage. Two of these valves (1E12-F023 and 1E51-F013) are both containment isolation valves and pressure isolation valves. The first refueling outage, currently scheduled to be initiated in January of 1989, must be initiated by no later than February 28, 1989. The LLRTs for these valves, which would otherwise begin to become overdue on May 17, 1988, must be performed prior to when containment integrity needs to be assured following the refueling operation.

By a separate letter dated January 13, 1988, the licensees also requested a one-time exemption from the scheduler requirements of Section III.D.3 of Appendix J to 10 CFR Part 50 concerning LLRT testing intervals for all of the containment isolation valves (eight of these valves). That exemption request was granted separately in an Exemption dated March 18, 1988.

The February 10, 1988 Federal Register notice concerning this action mistakenly referenced an October 30, 1987 submittal date for this proposed action.

2.0 EVALUATION

Technical Specification 4.6.1.2.d requires LLRTs (Type C tests) on the primary containment isolation valves listed in Table 3.6.4-1 to be performed at intervals no greater than 24 months except for containment isolation valves in hydrostatically tested lines penetrating the primary containment, which shall be leak tested at least once per 18 months per Technical Specification 4.6.1.2.h. The Commission's regulations (10 CFR 50, Appendix J, Section III.D.3) require

LLRTs (Type C tests) to be performed during each reactor shutdown for refueling, but in no case at intervals greater than 2 years. Technical Specification 4.4.3.2.2.a requires leak rate tests for Reactor Coolant System pressure isolation valves (PIVs) listed in Table 3.4.3.2-1 to be performed at least once per 18 months. An additional 25 percent may be added to the 18-month interval per Specification 4.0.2.a. The licensees have requested that the initial 18 and 24-month testing intervals for the nine valves be extended on a one-time basis until the first refueling outage presently scheduled for the spring of 1989, or June 15, 1989, whichever comes first. These valves would otherwise become overdue for testing between May 17 and October 21, 1988.

The licensees have indicated that performing the leak testing on these nine valves will require the removal of the drywell head and the disassembly of the reactor head spray piping to allow installation of a blind flange as an inboard test boundary. Reassembly of the reactor head spray piping will require that a reactor coolant system boundary leakage test be performed in accordance with the ASME code. The licensees estimate that these tasks would extend the spring 1988 maintenance outage by about one week, and cause additional personnel exposure of approximately one to two Man-Rem.

The first refueling outage is scheduled to be initiated in January of 1989. Drywell head removal and a reactor coolant boundary leakage test will be required during this outage. Performance of the leak tests for these containment isolation and pressure isolation valves during this outage would bring the test schedule into alignment with the fuel cycle. Thus, the licensee indicated that the time to perform the required testing has been accounted for in planning the first refueling outage. If IP encounters a problem prior to the first refueling outage which entails removal of the drywell head and disassembly of the reactor head spray piping, the required leakage tests will be performed in order to return to full compliance.

The 2-year and 18-month + 25% testing intervals for containment isolation and reactor coolant pressure isolation valves, respectively, are intended to be often enough to prevent significant deterioration from occurring and long enough to permit LLRTs to be performed during plant outages. This provides added assurance of Reactor Coolant System valve integrity thereby reducing the probability of gross valve failure and consequent intersystem loss of coolant accident. It also provides assurance that the overall containment leakage limits will not exceed the value assumed in the accident analysis, even when accounting for possible degradation of the leakage barriers between leakage tests.

The licensees have stated that the isolation valves, which are the subject of this amendment request and the related exemption request to Appendix J of 10 CFR Part 50, were all tested successfully in 1986. The total of the Type C leakage rates for these valves is not a significant portion (1.58%) of the allowable leakage limit (0.6 L). Reactor Coolant System PIV leakage rates are all less than their allowable leakage rates, whose values are normally exceedingly low. Deterioration in the overall integrity of non-flow modulating

(either full open or full closed) isolation valves is normally expected to be a gradual process. The licensees provided the following information relative to industry performance of these valves as a comparative check to the Clinton Power Station valve performance history.

The licensees performed an inspection of industry related information on failure of Anchor-Darling and Yarway valves. Information on past performance of these valve types gathered through the Nuclear Plant Reliability Data System (NPRDS) shows that: Anchor-Darling 6" gate valves have a 1.5% probability of a leakage related failure during the 238 day extension requested, Anchor-Darling 4" globe valves have a 0.84% probability of a leakage related failure during the 238 day extension requested, and Yarway globe valves (1/2" to 2.0") have a 0.045% probability of failure during the 238 day extension requested. No previous failures of 3/4" Yarway globe valves were reported.

The NRC staff has determined that the licensees' request for extension of the requested Reactor Coolant System pressure isolation valve and containment isolation valve LLRTs until the first refueling outage will not present a significant safety concern and is therefore acceptable based on the following considerations:

1. The favorable results of previous LLRTs performed at the Clinton Power Station coupled with the small contribution to allowable leakage, confirmatory industry experience and expected gradual deterioration of valves of these types provide reasonable assurance that the granting of the requested extension 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. The 24-month interval requirement for Type B and C penetrations is intended to be often enough to prevent significant deterioration from occurring and long enough to permit the LLRTs to be performed during plant outages.

The valves cannot be tested during power operation since drywell head removal and reactor head spray piping disassembly are required. 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 1 week or having a plant shutdown specifically to perform the LLRTs within the 24-month time period, as long as the valves are in compliance with Items 1 and 2 above.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in the surveillance requirements. We have 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 or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

We have 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: Janice A. Stevens

Dated: March 18, 1988