

September 14, 1988

Docket No.: 50-461

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

DISTRIBUTION  
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NRC PDR  
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TBarnhart(4)  
Wanda Jones  
DHagan  
EJordan  
EButcher  
ACRS(10)  
GPA/PA  
ARM//LFMB

Dear Mr. Spangenberg:

SUBJECT: TECHNICAL SPECIFICATION CHANGE REQUEST RELATED TO THE PROCESS  
AND EFFLUENT RADIATION MONITORS (TAC 66553)

Re: CLINTON POWER STATION, UNIT NO. 1

The Commission has issued the enclosed Amendment No. 10 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 October 30, 1987.

This amendment revises the Technical Specification Sections 3/4.3.7.1, 3/4.3.7.11 and 3/4.3.7.12 concerning radiation monitoring instrumentation.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be provided in the Federal Register.

Sincerely,

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

Enclosures:

1. Amendment No. 10 to License No. NPF-62
2. Safety Evaluation

cc w/enclosures:  
See next page

*w/changes to FRN noted*

PDIII-2  
LLuther  
8/24/88

PDIII-2 *jad*  
JStevens  
8/25/88

OGC  
*(pu)*  
8/31/88

PDIII-2  
DMuller  
8/29/88

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PDR ADOCK 05000461  
P PIC

DF01  
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Docket No. 50-461

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

Dear Mr. Spangenberg:

The Commission has filed the enclosed "Notice of Issuance of Amendment to Facility Operating License" with the Office of the Federal Register for publication. This notice is in regards to Amendment No.10 of Operating License No. NPF-62 which was issued in response to the Illinois Power Company, et al. request dated October 30, 1987.

Sincerely,

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

Enclosure:  
As stated

cc: See next page

PDIII-2 *LL*  
LLuther *LL*  
8/26/88

PDIII-2 *JAS*  
JStevens  
8/26/88

*w/changes to FRN*  
OGC  
CPW  
8/31/88

PDIII-2 *DM*  
DMuller  
8/29/88



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

September 14, 1988

Docket No.: 50-461

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

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Sincerely,

*Janice A. Stevens*

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

Enclosures:

1. Amendment No. 10 to License No. NPF-62
2. Safety Evaluation

cc w/enclosures:  
See next page

**Mr. Frank A. Spangenberg**  
**Illinois Power Company**

**Clinton Power Station**  
**Unit 1**

**cc:**

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

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**Division of Engineering**  
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**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. 10  
License No. NPF-62

1. The Nuclear Regulatory Commission (the Commission) has found that
  - A. The application for amendment by Illinois Power Company\* (IP), Soyland Power Cooperative, Inc., and Western Illinois Power Cooperative, Inc. (the licensees) dated October 30, 1987, 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 Western Illinois Power Cooperative, Inc. and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

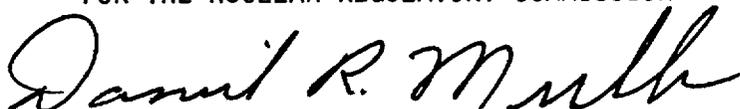
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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No.10, 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



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: September 14, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 10

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.

<u>Remove</u>	<u>Insert</u>
3/4 3-71	3/4 3-71
3/4 3-72	3/4 3-72
--	3/4 3-72a
3/4 3-73	3/4 3-73
3/4 3-74	3/4 3-74
3/4 3-96	3/4 3-96
3/4 3-97	3/4 3-97
3/4 3-98	3/4 3-98
3/4 3-100	3/4 3-100
3/4 3-102	3/4 3-102
3/4 3-103	3/4 3-103
3/4 3-104	3/4 3-104
3/4 3-105	3/4 3-105
3/4 3-107	3/4 3-107
3/4 11-17	3/4 11-17

TABLE 3.3.7.1-1

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENTATION</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE CONDITIONS</u>	<u>ALARM/TRIP SETPOINT</u>	<u>ACTION</u>
1. Main Control Room Air Intake Radiation Monitor	2/intake <sup>(a)</sup>	1, 2, 3, 5, and *	≤ 10 mR/hr	70
2. Area Monitors				
a. New Fuel Storage Vault	1	#	≤ 2.5 mR/hr**	71
b. Spent Fuel Storage Pool	1	##	≤ 2.5 mR/hr**	71
c. Control Room Direct Radiation Monitor	1	At all times	≤ 2.5 mR/hr**	71
3. Pre-treatment Off-gas PRM - Noble Gas Activity Monitor	1 <sup>(b)</sup>	***	≤ 50 μCi/cc**,†	72
4. Post-treatment Off-gas PRM				
a. High-Range Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	1 <sup>(b)</sup>	***	≤ 7.06 μCi/cc††	73
b. Effluent System Flow Rate Measuring Device	1	***	NA	74
c. Sample Flow Rate Measuring Device	1	***	NA	74

CLINTON - UNIT 1

3/4 3-71

Amendment No. 10

TABLE 3.3.7.1-1 (Continued)  
RADIATION MONITORING INSTRUMENTATION

TABLE NOTATIONS

- \* When irradiated fuel is being handled in the secondary containment.
- \*\* Alarm only.
- \*\*\* During operation of the main condenser air ejector.
- # With fuel in the new fuel storage vault.
- ## With irradiated fuel in the spent fuel storage pool.
- † Reactivity concentration expected at the monitor location is a noble gas mix with a 2.9 minute decay.
- †† Radioactivity concentration expected at the monitor location is a noble gas mix released from the off-gas treatment system.
- (a) A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.
- (b) Channel OPERABILITY shall include the capability of either the Main Control Room Central Control Terminal (MCR-CCT) or the Radiation Protection Office Central Control Terminal (RP-CCT) to provide the alarm status of the applicable radiation monitor channel(s).

ACTION

- ACTION 70 -
- a. With one of the required monitors inoperable, place the inoperable channel in the (downscale) tripped condition within 1 hour; restore the inoperable channel to OPERABLE status within 7 days, or, within the next 6 hours, initiate and maintain operation of the control room emergency filtration system in the high recirculation mode of operation.
  - b. With both of the required monitors inoperable, initiate and maintain operation of the control room emergency filtration system in the high recirculation mode of operation within 1 hour.
- ACTION 71 - With the required monitor inoperable, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.
- ACTION 72 -
- a. With both the MCR-CCT and RP-CCT inoperable,
    - 1. Perform a CHANNEL CHECK using local monitor indication within 8 hours and at least once per 8 hours thereafter, and
    - 2. Restore the MCR-CCT or RP-CCT to OPERABLE status for the applicable channel(s) within the next 30 days, and if unsuccessful, prepare and submit a Special Report pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the CCT failure or malfunction and the action taken to restore the inoperable equipment to OPERABLE status.

TABLE 3.3.7.1-1 (Continued)  
RADIATION MONITORING INSTRUMENTATION  
TABLE NOTATIONS

- b. With the Pre-treatment Off-gas PRM - Noble Gas Activity Monitor otherwise inoperable, gases from the main condenser off-gas treatment system may be released to the environment provided:
  - 1. The off-gas treatment system is not bypassed, and
  - 2. The post-treatment air ejector off-gas PRM high range noble gas activity monitor is OPERABLE, or the provisions of ACTION 73-b are in effect, and
  - 3. Grab samples are taken at least once per 8 hours and analyzed for gross noble gas activity within 4 hours.

ACTION 73 -

- a. With both the MCR-CCT and PR-CCT inoperable,
  - 1. Perform a CHANNEL CHECK using local monitor indication within 8 hours and at least once per 8 hours thereafter, and
  - 2. Restore the MCR-CCT or RP-CCT to OPERABLE status for the applicable channel(s) within the next 30 days, and if unsuccessful, prepare and submit a Special Report pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the CCT failure or malfunction and the action taken to restore the inoperable equipment to OPERABLE status.
- b. With the Post-treatment Off-gas PRM High Range Noble Gas Activity Monitor otherwise inoperable, effluent releases via this pathway may continue provided grab samples are taken at least once per 8 hours and analyzed for gross noble gas activity within 24 hours.

ACTION 74 -

With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 8 hours.

TABLE 4.3.7.1-1

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

CLINTON - UNIT 1

3/4 3-73

Amendment No. 10

<u>INSTRUMENTATION</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>APPLICABILITY</u>
1. Main Control Room Air Intake Radiation Monitor	S	NA	M	R	1, 2, 3, 5, and *
2. Area Monitors					
a. New Fuel Storage Vault	S	NA	M	R	#
b. Spent Fuel Storage Pool	S	NA	M	R	##
c. Control Room Direct Radiation Monitor	S	NA	M	R	At all times
3. Pre-Treatment Off-gas PRM-Noble Gas Activity Monitor	D <sup>(3)</sup>	M	Q(1)	R(2)	**
4. Post-Treatment Off-gas PRM					
a. High Range Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	D <sup>(3)</sup>	D	Q(1)	R(2)†	**
b. Effluent System Flow-Rate Measuring Device	D	NA	Q	R	**
c. Sample Flow-Rate Measuring Device	D	NA	Q	R	**

TABLE 4.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATION

\*When irradiated fuel is being handled in the secondary containment.

\*\*During operation of main condenser air ejector.

#With fuel in the new fuel storage vault.

##With irradiated fuel in the spent fuel storage pool.

†Automatic isolation of valve 1N66-F060 shall be demonstrated during the CHANNEL CALIBRATION

- (1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that the MCR-CCT or RP-CCT responds with annunciation and event printout to each of the following conditions:
  1. Instrument indicates measured levels above the alarm/trip (HIGH) setpoint.
  2. Detector failure (LOW FAIL, HI FAIL).
  3. Sample flow failure (EXTERNAL FAIL).
  4. Instrument not set in normal operate mode (UNINITIALIZED, CALIBRATE, MAINTENANCE, or STANDBY).
- (2) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended energy range and measurement range. Subsequent CHANNEL CALIBRATION shall be performed using the initial radioactive standards or other standards of equivalent quality or radioactive sources that have been related to the initial calibration.
- (3) The CHANNEL CHECK shall also determine that channel communication is established to the MCR-CCT or RP-CCT.

TABLE 3.3.7.11-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

	<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
1.	RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a.	Liquid Radwaste Discharge Process Radiation Monitor	1 <sup>(a)</sup>	110
2.	RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a.	Plant Service Water Effluent Process Radiation Monitor	1 <sup>(a)</sup>	111
b.	Shutdown Service Water Effluent Process Radiation Monitor	1/Division* <sup>(a)</sup>	111
c.	Fuel Pool Heat Exchanger Service Water Radiation Monitor	1 <sup>(a)</sup>	111
3.	FLOW RATE MEASUREMENT DEVICES		
a.	Liquid Radwaste Effluent Line	1	112
b.	Plant Service Water Effluent Line	1	112
4.	TANK LEVEL INDICATING DEVICES		
a.	Cycled Condensate Storage	1	113
b.	Reactor Core Isolation Cooling Storage	1	113

\*Division I and Division II only.

TABLE 3.3.7.11-1 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

TABLE NOTATION

- (a) Channel OPERABILITY shall include the capability of either the Main Control Room Central Control Terminal (MCR-CCT) or the Radiation Protection Office Central Control Terminal (RP-CCT) to provide the alarm status of the applicable radiation monitor channel(s).

ACTION

- ACTION 110 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue via this pathway provided that prior to initiating a release:
- a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and
  - b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving:
- Otherwise, suspend release of radioactive effluents via this pathway.
- ACTION 111 -
- a. With both the MCR-CCT and RP-CCT inoperable perform a CHANNEL CHECK using local monitor indication within 8 hours and at least once per 8 hours thereafter.
  - b. With the monitor otherwise inoperable, effluent releases via this pathway may continue provided that at least once per 12 hours, grab samples are collected and analyzed for radioactivity at a limit of detection of at least  $10^{-7}$   $\mu\text{Ci/ml}$ .
- ACTION 112 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated in place may be used to estimate flow.
- ACTION 113 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, liquid additions to this tank may continue provided the tank liquid level is estimated during all liquid additions to the tank.

TABLE 4.3.7.11-1RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. RADIOACTIVITY MONITORS PROVIDING ALARM ALARM AND AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Discharge Process Radiation Monitor Effluent Line	D(5)	P	R(3)	Q(1)
2. RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Plant Service Water Effluent Process Radiation Monitor	D(5)	M	R(3)	Q(2)
b. Shutdown Service Water Effluent Process Radiation Monitor	D(5)	M	R(3)	Q(2)
c. Fuel Pool Heat Exchanger Service Water Radiation Monitor	D(5)	M	R(3)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(4)	NA	R	Q
b. Plant Service Water Effluent Line	D(4)	NA	R	Q

TABLE 4.3.7.11-1 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

- (1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that automatic isolation of this pathway occurs and that the MCR-CCT or RP-CCT provides annunciation and event printout in response to each of the following conditions:
  1. Instrument indicates measured levels above the alarm/trip (HIGH) setpoint.
  2. Detector failure (LOW FAIL, HI FAIL).
  3. Sample flow failure (EXTERNAL FAIL).
  4. Instrument not set in normal operate mode (UNINITIALIZED, CALIBRATE, MAINTENANCE, or STANDBY).\*
- (2) The CHANNEL FUNCTIONAL TEST shall also demonstrate that the MCR-CCT or RP-CCT responds with annunciation and event printout to each of the following conditions:
  1. Instrument indicates measured levels above the alarm (HIGH) setpoint.
  2. Detector failure (LOW FAIL, HI FAIL).
  3. Sample flow failure (EXTERNAL FAIL).
  4. Instrument not set in normal operate mode (UNINITIALIZED, CALIBRATE, MAINTENANCE, or STANDBY).
- (3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (4) CHANNEL CHECK shall consist of verifying indication of flow during periods of release. CHANNEL CHECK shall be made at least once per 24 hours on days which continuous, periodic, or batch releases are made.
- (5) The CHANNEL CHECK shall also determine that channel communication is established to the MCR-CCT or RP-CCT.

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\*A demonstration of automatic isolation of the release pathway is not applicable to this condition.

TABLE 3.3.7.12-1RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE#</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Station HVAC Exhaust PRM			
a. High-Range Noble Gas Activity Monitor	1(a)	*	121
b. Low-Range Noble Gas Activity Monitor	1(a)	*	121
c. Iodine Sampler	1	*	122
d. Particulate Sampler	1	*	122
e. Sample Flow-Rate Measuring Device	1	*	123
f. Effluent System Flow Rate Measuring Device	1	*	123
2. Standby Gas Treatment System Exhaust PRM			
a. High-Range Noble Gas Activity Monitor	1(a)	**	121
b. Low-Range Noble Gas Activity Monitor	1(a)	**	121
c. Deleted			

TABLE 3.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

	<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE#</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
2.	Standby Gas Treatment System Exhaust PRM (Continued)			
d.	Iodine Sampler	1	**	122
e.	Particulate Sampler	1	**	122
f.	Sample Flow-Rate Measuring Device	1	**	123
g.	Effluent System Flow-Rate Measuring Device	1	**	123
3.	Main Condenser Off-gas Treatment System Explosive Gas Monitoring System			
a.	Hydrogen Monitor	1	***	124

TABLE 3.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

TABLE NOTATIONS

- \* At all times.
- \*\* During standby gas treatment system operation.
- \*\*\* During operation of the main condenser air ejector.
- # A channel may be placed in an inoperable status for up to 1 hour for the purpose of performing surveillances.
- (a) Channel OPERABILITY shall include the capability of either the Main Control Room Central Control Terminal (MCR-CCT) or the Radiation Protection Office Central Control Terminal (RP-CCT) to provide the alarm status of the applicable radiation monitor channel(s).

ACTION

- ACTION 121 -
  - a. With both the MCR-CCT and RP-CCT inoperable, perform a CHANNEL CHECK using local monitor indication within 8 hours and at least once per 8 hours thereafter.
  - b. With the noble gas activity monitor channel(s) otherwise inoperable, effluent releases via this pathway may continue provided grab samples are taken at least once per 8 hours and analyzed for gross noble gas activity within 24 hours.
- ACTION 122 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that, within 4 hours after the channel has been declared inoperable, samples are continuously collected with auxiliary sampling equipment as required in Table 4.11.2-1.
- ACTION 123 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flow rate is estimated at least once per 4 hours.
- ACTION 124 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of the main condenser off-gas treatment system may continue provided grab samples are collected at least once per 4 hours and analyzed within the following 4 hours.
- ACTION 125 - Deleted
- ACTION 126 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, suspend release of radioactivity effluents via this pathway.

TABLE 4.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>APPLICABILITY</u>
1.	Station HVAC Exhaust PRM					
a.	High-Range Noble Gas Activity Monitor	D <sup>(4)</sup>	M	R(2)	Q(1)	*
b.	Low-Range Noble Gas Activity Monitor	D <sup>(4)</sup>	M	R(2)	Q(1)	*
c.	Iodine Sampler	W	NA	NA	NA	*
d.	Particulate Sampler	W	NA	NA	NA	*
e.	Sample Flow Rate Measuring Device	D	NA	R	Q	*
f.	Effluent System Flow Rate Measuring Device	D	NA	R	Q	*
2.	Standby Gas Treatment System Exhaust PRM					
a.	High-Range Noble Gas Activity Monitor	D <sup>(4)</sup>	NA	R(2)	Q(1)	**
b.	Low-Range Noble Gas Activity Monitor	D <sup>(4)</sup>	M	R(2)	Q(1)	**
c.	Deleted					
d.	Iodine Sampler	W	NA	NA	NA	
e.	Particulate Sampler	W	NA	NA	NA	**

TABLE 4.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

- \* At all times.
- \*\* During operation of the standby gas treatment system.
- \*\*\* During operation of the main condenser air ejector.
- (1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that the MCR-CCT or RP-CCT responds with annunciation and event printout to each of the following conditions:
  - 1. Instrument indicates measured levels above the alarm (HIGH) setpoint.
  - 2. Detector failure (LOW FAIL, HI FAIL).
  - 3. Sample flow failure (EXTERNAL FAIL).
  - 4. Instrument not set in normal operate mode (UNINITIALIZED, CALIBRATE, MAINTENANCE, or STANDBY).
- (2) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. Subsequent CHANNEL CALIBRATION shall be performed using the initial radioactive standards or other standards of equivalent quality or radioactive sources that have been related to the initial calibration.
- (3) The CHANNEL CALIBRATION shall include the use of standard samples containing a nominal:
  - 1. 1.0 vol. % hydrogen, balance nitrogen, and
  - 2. 4.0 vol. % hydrogen, balance nitrogen.
- (4) The CHANNEL CHECK shall also determine that channel communication is established to the MCR-CCT or RP-CCT.

## RADIOACTIVE EFFLUENTS

### MAIN CONDENSER

#### LIMITING CONDITION FOR OPERATION

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3.11.2.7 The radioactivity rate of noble gases measured at the offgas recombiner effluent shall be limited to less than or equal to 289 millicuries/sec after 30 minutes' decay.

APPLICABILITY: During operation of the main condenser air ejector.

#### ACTION

With the radioactivity rate of noble gases at the offgas recombiner effluent exceeding 289 millicuries per second after 30 minutes decay, restore the gross radioactivity rate to within its limit within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

#### SURVEILLANCE REQUIREMENTS

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4.11.2.7.1 The radioactivity rate of noble gases at the offgas recombiner effluent shall be continuously monitored by the Pretreatment Off-Gas process radiation monitor required to be OPERABLE or as otherwise provided by Table 3.3.7.1-1.

4.11.2.7.2 The radioactivity rate of noble gases from the offgas recombiner effluent shall be determined to be within the limits of Specification 3.11.2.7 at the following frequencies by performing an isotopic analysis of a representative sample of gases taken at the discharge (prior to dilution and/or discharge) of the offgas recombiner:

- a. At least once per 31 days.
- b. Within 4 hours following an increase, as indicated by the Pretreatment Off-Gas process radiation monitor required to be OPERABLE or as otherwise provided by Table 3.3.7.1-1, of greater than 50%, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NO. NPF-62  
CLINTON POWER STATION, UNIT NO. 1  
ILLINOIS POWER COMPANY  
DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated October 30, 1987, the licensees (Illinois Power Company, et al.) proposed Technical Specification (TS) changes to Appendix A of Operating License NPF-62 for the Clinton Power Station. The proposed changes contained in Package Number 5 of Attachment 3 of the submittal were requested to account and allow credit to be taken for the redundancy of the common Central Control Terminals (CCTs), where process and radiation monitor status and indications are provided, and to clarify certain testing and surveillance requirements for process and effluent radiation monitors based on as-built capabilities and features provided in these systems.

2.0 EVALUATION

The changes proposed apply to Technical Specifications 3/4.3.7.1 (along with 4.11.2.7.1 and 4.11.2.7.2), 3/4.3.7.11, and 3/4.3.7.12. The change to Table 3/4.3.7.1-1 (Radiation Monitoring Instrumentation), Table 3/4.3.7.11-1 (Radioactive Liquid Effluent Monitoring Instrumentation), and Table 3/4.3.7.12-1 (Radioactive Gaseous Effluent Monitoring Instrumentation) are as follows:

The process radiation monitors at Clinton provide their operational information via data links to two common CCTs. The radiation monitor indication and status are provided through either of the CCTs. One CCT is located in the Main Control Room (MCR) and the other CCT is located in the Radiation Protection Office (RPO). The licensees stated in their letter that the RPO is continuously manned (24 hours a day) with telephone lines to the MCR and that these two CCTs are functionally equivalent. The staff considered in its evaluation that they are redundant CCTs with respect to verifying monitor status, checking monitor indications, and performing required surveillances on the radiation monitors.

The channel functional tests specified for certain monitors in the above tables require, among other things, the capability to remotely annunciate an alarm condition in the MCR. Since the CCT in the MCR (CCT-MCR) is

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considered to be functionally equivalent to the CCT in the RPO (CCT-RPO), a new note is affixed to Table 3.3.7.1-1 as Note (b) and to Tables 3.3.7.11-1 and 3.3.7.12-1 as Note (a). This new note is added to include in the channel functional tests the capability of either the CCT-MCR or CCT-RPO to provide the alarm status of the applicable radiation monitor channels, rather than referring only to the MCR annunciation as currently specified in the Clinton TS. Inoperability of one CCT does not constitute inoperability of a monitor since the redundant CCT can provide the required status, indication, and alarm for applicable radiation monitors. Therefore, the staff finds the additions to the above tables to be acceptable.

Actions 72 and 73 for Table 3.3.7.1-1, Action 111 for Table 3.3.7.11-1, and Action 121 for Table 3.3.7.12-1 are extended to include the operability requirements for both CCTs in the event that both CCTs are inoperable and are therefore incapable of providing the required remote alarm annunciation. Since these changes to the action statements do not remove or relax any existing requirements but add the new requirements, the staff finds the extended action statements to be acceptable.

The licensees proposed a revised Table Notation (1) to Table 4.3.7.1-1 (Radioactive Liquid Effluent Monitoring Instrumentation Surveillance Requirements) to reflect the as-built capabilities and design features provided in the liquid effluent radiation monitors. The current Clinton TS (Item 4 in Table Notation 1) states that automatic isolation of liquid effluent is to occur with "Instrument Controls not set in Operate Mode." The licensees' proposed change clarifies this item to read "Instrument Control not set in Normal Operate Mode (uninitialized, calibrate, maintenance, or standby)." The discrepancy between specific system design features and the current Clinton TS is due to an oversight at the time the Clinton TS was drafted. This change does not remove or relax the currently existing requirements but clarifies the requirement to reflect the specific design features. Therefore, the staff finds this change to be acceptable.

The changes proposed for Tables 3.3.7.12-1 (Radioactive Gaseous Effluent Monitoring Instrumentation) and 4.3.7.12-1 (Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Requirements) are editorial in nature and are to provide consistent nomenclature for the station heating, ventilation, and air conditioning (HVAC) exhaust process radiation monitor (PRM) and the standby gas treatment system exhaust PRM. The staff finds the changes to be acceptable.

Action Statement 72 for Pre-Treatment Off-Gas PRM in Table 3.3.7.1-1 (Radiation Monitoring Instrumentation) currently states that "...gases from the main condenser off-gas treatment system may be released to the environment for up to 72 hours provided..." This Action Statement is not specific as to what actions should be taken after the 72-hour limit since the limiting condition for operation (LCO) in the same section also specifies that the provision of Specifications 3.0.3 and 3.0.4 are not applicable. Thus, no further action (reactor shutdown) is required if the 72-hour limit is exceeded. To rectify this discrepancy, the licensees proposed to delete the 72-hour limit requirement and instead to insert a

new provision (3) stating "Grab samples are taken at least once per 8 hours and analyzed for gross noble gas activity within 4 hours..." (until this monitor becomes operational). In addition to this monitor, there is a downstream detector (plant effluent monitor) which monitors the gaseous radioactive effluent through the pre-treatment off-gas monitor to the environment. Therefore, the staff finds the licensees' proposed changes to be acceptable.

As a direct result of this change, a phrase is added to Surveillance Sections 4.11.2.7.1 and 4.11.2.7.2: "...required to be operable as otherwise provided by Table 3.3.7.1". This addition provides consistency with the operational requirements of the pre-treatment off-gas process radiation monitor.

Based on the above evaluation, the staff concludes that the proposed changes concerning operability requirements for process and effluent radiation monitors are acceptable. The bases for the staff's acceptance are that the proposed changes (1) do not remove any existing requirements while providing adequate clarification and (2) meet the appropriate guidelines of the General Electric Standard TS (NUREG-0123, Revision 3, dated December 1980).

### 3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact has been prepared and published (53 FR 35132) in the Federal Register on September 9, 1988. Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

### 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: J. Lee, PSB/DEST

Dated: September 14, 1988



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

Docket No. 50-461

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

Dear Mr. Spangenberg:

The Commission has filed the enclosed "Notice of Issuance of Amendment to Facility Operating License" with the Office of the Federal Register for publication. This notice is in regards to Amendment No. 10 of Operating License No. NPF-62 which was issued in response to the Illinois Power Company, et al. request dated October 30, 1987.

Sincerely,

*Janice A. Stevens*

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

Enclosure:  
As stated

cc: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSIONILLINOIS POWER COMPANY, ET AL.DOCKET NO. 50-461NOTICE OF ISSUANCE OF AMENDMENT TOFACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 10 to Facility Operating License No. NPF-62 issued to the Illinois Power Company\* (IP), Soyland Power Cooperative, Inc. and Western Illinois Power Cooperative, Inc., (the licensees), for operation of the Clinton Power Station, Unit 1, located in DeWitt County, Illinois.

This amendment includes four changes to Technical Specification Sections 3/4.3.7.1, 3/4.3.7.11 and 3/4.3.7.12 concerning radiation monitoring instrumentation. The first change consists of revisions which both account for and allow credit to be taken for redundancy of the common Central Control Terminals (CCTs) where process radiation monitor status and indications are provided. These revisions consist of: including the CCTs in the OPERABILITY requirements for certain radiation monitor channels required to be OPERABLE by the Technical Specifications; changing the ACTION statements, as applicable, to account for inoperability of the CCTs versus inoperability of the monitor itself that provides input to the CCTs; enhancing the CHANNEL CHECK for the applicable radiation monitors to ensure that channel communication is established to the

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.

Main Control Room - CCT or Radiation Protection - CCT; and changing the expanded CHANNEL FUNCTIONAL TEST requirements for the radiation monitors to make the wording of the requirement based on the Standard Technical Specifications more specific and applicable to the Clinton design without altering the intent of the requirement.

The second change consists of revisions to the CHANNEL FUNCTIONAL TEST requirement for the Liquid Radwaste Discharge Monitor. The former requirement was a demonstration of automatic isolation of the release pathway with the monitor controls not set in the OPERATE mode. The change deletes this specific requirement since the monitor is not designed to effect an isolation for this specific condition.

The third change consists of a specific revision to make the channel/instrument descriptions for the Standby Gas Treatment System (SGTS) Exhaust Process Radiation Monitor (PRM) agree with the HVAC Exhaust PRM descriptions since they are designed and operated in a similar manner. These revisions do not change the intent of the Specification or the manner in which the surveillances are conducted.

The fourth change consists of several changes to ACTION 72 of Table 3.3.7.1-1 to make it consistent with other applicable Specifications. To support these changes, which are associated with the OPERABILITY of the pre-treatment off-gas process radiation monitor, changes are also made in the related Specifications 4.11.2.7.1 and 4.22.2.7.2.

The amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on February 3, 1988 (53 FR 3092). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the Environmental Assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment.

For further details with respect to the action see (1) the application for amendment dated October 30, 1987, (2) Amendment No. 10 to License No. NPF-62, and (3) the Environmental Assessment and Finding of No Significant Impact. All of these items are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW, Washington, DC; and at Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois

61727. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Reactor Projects.

Dated at Rockville, Maryland this 14th day of September 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, appearing to read "Daniel R. Muller".

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