



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TOLEDO EDISON COMPANY

CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 185  
License No. NPF-3

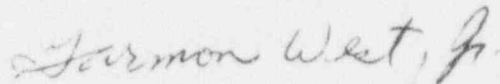
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Toledo Edison Company, Centerior Service Company, and the Cleveland Electric Illuminating Company (the licensees) dated November 13, 1992, as supplemented on July 15 and November 10, 1993, 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-3 is hereby amended to read as follows:

(a) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 185, are hereby incorporated in the license. The Toledo Edison Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented not later than 90 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Garmon West, Asst. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of issuance: March 28, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 185

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Remove

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3/4 3-3  
3/4 3-4  
3/4 3-5a  
3/4 3-7  
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Insert

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### 3/4.3 INSTRUMENTATION

#### 3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

##### LIMITING CONDITION FOR OPERATION

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3.3.1.1 As a minimum, the Reactor Protection System instrumentation channels and bypasses of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

##### SURVEILLANCE REQUIREMENTS

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4.3.1.1.1 Each Reactor Protection System instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.1.2 The total bypass function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.1.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

TABLE 3.3-1

## REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2 and *	1
2. High Flux	4	2	3	1, 2	2#, 10
3. RC High Temperature	4	2	3	1, 2	3#, 10
4. Flux - $\Delta$ Flux - Flow	4	2(a)(b)	3	1, 2	2#, 10
5. RC Low Pressure	4	2(a)	3	1, 2	3#, 10
6. RC High Pressure	4	2	3	1, 2	3#, 10
7. RC Pressure-Temperature	4	2(a)	3	1, 2	3#, 10
8. High Flux/Number of Reactor Coolant Pumps On	4	2(a)(b)	3	1, 2	3#, 10
9. Containment High Pressure	4	2	3	1, 2	3#, 10
10. Intermediate Range, Neutron Flux and Rate	2	N/A	2(c)	1, 2 and *	4
11. Source Range, Neutron Flux and Rate					
A. Startup	2	N/A	2	2## and *	5
B. Shutdown	2	N/A	1	3, 4 and 5	6
12. Control Rod Drive Trip Breakers	2 per trip system	1 per trip system	2 per trip system	1, 2 and *	7#, 8#
13. Reactor Trip Module	2 per trip system	1 per trip system	2 per trip system	1, 2 and *	7#
14. Shutdown Bypass High Pressure	4	2	3	2**, 3** 4**, 5**	6#
15. SCR Relays	2	2	2	1, 2 and *	9#

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Amendment No. 108, 128, 185

TABLE 3.3-1 (Continued)

TABLE NOTATION

\*With the control rod drive trip breakers in the closed position and the control rod drive system capable of rod withdrawal.

\*\*When Shutdown Bypass is actuated.

#The provisions of Specification 3.0.4 are not applicable.

##High voltage to detector may be de-energized above  $10^{-10}$  amps on both Intermediate Range channels.

- (a) Trip may be manually bypassed when RCS pressure  $\leq$  1820 psig by actuating Shutdown Bypass provided that:
- (1) The High Flux Trip Setpoint is  $\leq$  5% of RATED THERMAL POWER,
  - (2) The Shutdown Bypass High Pressure Trip Setpoint of  $\leq$  1820 psig is imposed, and
  - (3) The Shutdown Bypass is removed when RCS pressure  $>$  1820 psig.
- (b) Trip may be manually bypassed when Specification 3.10.3 is in effect.
- (c) The minimum channels OPERABLE requirement may be reduced to one when Specification 3.10.1 or 3.10.2 is in effect.

ACTION STATEMENTS

- ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the control rod drive trip breakers.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and/or POWER OPERATION may proceed provided both of the following conditions are satisfied:
- a. The inoperable channel is placed in the bypassed or tripped condition within one hour.
  - b. Either, THERMAL POWER is restricted to  $\leq$  75% of RATED THERMAL POWER and the High Flux Trip Setpoint is reduced to  $\leq$  85% of RATED THERMAL POWER within 4 hours or the QUADRANT POWER TILT is monitored at least once per 12 hours.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 3 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and POWER OPERATION may proceed provided the inoperable channel is placed in the bypassed or tripped condition within one hour.
- ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
- a.  $\leq$  5% of RATED THERMAL POWER restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.
  - b.  $>$  5% of RATED THERMAL POWER, POWER OPERATION may continue.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
- a.  $\leq 10^{-10}$  amps on the Intermediate Range (IR) instrumentation, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above  $10^{-10}$  amps on the IR instrumentation.
  - b.  $> 10^{-10}$  amps on the IR instrumentation, operation may continue.
- ACTION 6 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 within one hour and at least once per 12 hours thereafter.
- ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and/or POWER OPERATION may proceed provided all of the following conditions are satisfied:
- a. Within 1 hour:
    1. Place the inoperable channel in the tripped condition, or
    2. Remove power supplied to the control rod trip device associated with the inoperative channel.
  - b. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1, and the inoperable channel above may be bypassed for up to 30 minutes in any 24 hour period when necessary to test the trip breaker associated with the logic of the channel being tested per Specification 4.3.1.1.1. The inoperable channel above may not be bypassed to test the logic of a channel of the trip system associated with the inoperable channel.



TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 8 - With one of the Reactor Trip Breaker diverse trip features (undervoltage or shunt trip devices) inoperable, restore it to **OPERABLE status in 48 hours or place the breaker in trip in the next hour.**
- ACTION 9 - With one or both channels of SCR Relays inoperable, restore **the channels to OPERABLE status during the next COLD SHUTDOWN exceeding 24 hours.**
- ACTION 10 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement, within one hour, place one inoperable channel in trip and the second inoperable channel in bypass, and restore one of the inoperable channels to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and open the reactor trip breakers.

TABLE 4.3-1

## REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. High Flux	S	D(2), and Q(6,9)	N.A.	1, 2
3. RC High Temperature	S	R	SA(9)	1, 2
4. Flux - $\Delta$ Flux - Flow	S(4)	M(3) and Q(6,7,9)	N.A.	1, 2
5. RC Low Pressure	S	R	SA(9)	1, 2
6. RC High Pressure	S	R	SA(9)	1, 2
7. RC Pressure-Temperature	S	R	SA(9)	1, 2
8. High Flux/Number of Reactor Coolant Pumps On	S	Q(6,9)	N.A.	1, 2
9. Containment High Pressure	S	R	SA(9)	1, 2
10. Intermediate Range, Neutron Flux and Rate	S	R(6)	N.A.(5)	1, 2 and *
11. Source Range, Neutron Flux and Rate	S	R(6)	N.A.(5)	2, 3, 4 and 5
12. Control Rod Drive Trip Breakers	N.A.	N.A.	M(8,9) and S/U(1)(8)	1, 2 and *
13. Reactor Trip Module Logic	N.A.	N.A.	M(9)	1, 2 and *
14. Shutdown Bypass High Pressure	S	R	SA(9)	2**, 3**, 4**, 5**
15. SCR Relays	N.A.	N.A.	R	1, 2 and *

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Amendment No. 7, 29, 42, 108, 125, 185

TABLE 4.3-1 (Continued)

Notation

- (1) - If not performed in previous 7 days.
- (2) - Heat balance only, above 15% of RATED THERMAL POWER.
- (3) - When THERMAL POWER [TP] is above 50% of RATED THERMAL POWER [RTP], and at steady state, compare out-of-core measured AXIAL POWER IMBALANCE [API<sub>o</sub>] to incore measured AXIAL POWER IMBALANCE [API<sub>i</sub>] as follows:

$$\frac{RTP}{TP} [API_o - API_i] = \text{Offset Error}$$

Recalibrate if the absolute value of the Offset Error is  $\geq 2.5\%$

- (4) - AXIAL POWER IMBALANCE and loop flow indications only.
- (5) - CHANNEL FUNCTIONAL TEST is not applicable. Verify at least one decade overlap prior to each reactor startup if not verified in previous 7 days.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Flow rate measurement sensors may be excluded from CHANNEL CALIBRATION. However, each flow measurement sensor shall be calibrated at least once per 18 months.
- (8) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of both the undervoltage and shunt trip devices of the Reactor Trip Breakers.
- (9) - Performed on a STAGGERED TEST BASIS.
  - \* - With any control rod drive trip breaker closed.
  - \*\* - When Shutdown Bypass is actuated.

TABLE 3.3-17 (Continued)

ACTION STATEMENTS

- ACTION 18 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirements, restore the inoperable channel to OPERABLE status within 72 hours or reduce reactor power to less than 45 percent of RATED THERMAL POWER within the next 6 hours.
- ACTION 19 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirements, restore the inoperable channel to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.
- ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided both of the following conditions are satisfied:
- a) The control rod drive trip breaker associated with the inoperable channel is placed in the tripped condition within one hour.
  - b) The Minimum Channels OPERABLE requirement is met; however, one additional control rod drive trip breaker associated with another channel may be tripped for up to 2 hours for surveillance testing per Specification 4.3.2.3, after reclosing the control rod drive trip breaker opened in a) above.

TABLE 4.3-17

ANTICIPATORY REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE IS REQUIRED</u>
1. Turbine Trip <sup>(a)</sup>	S	Not Applicable	SA <sup>(c)</sup>	1 <sup>(b)</sup>
2. Main Feed Pump Turbine Trip	S	Not Applicable	SA <sup>(c)</sup>	1
3. Output Logic	Not Applicable	Not Applicable	M	1

- (a) Trip automatically bypassed below 45 percent of RATED THERMAL POWER  
 (b) Applicable only above 45 percent of RATED THERMAL POWER  
 (c) Perform on a STAGGERED TEST BASIS

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Amendment No. 73, 128, 129, 185