

July 29, 1992

Mr. Steven E. Miltenberger
 Vice President and Chief Nuclear
 Officer
 Public Service Electric & Gas
 Company
 Post Office Box 236
 Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: REACTOR TRIP SYSTEM INSTRUMENTATION, SALEM NUCLEAR GENERATING
 STATION, UNITS 1 AND 2 (TAC NOS. M83353 AND M83354)

The Commission has issued the enclosed Amendment Nos. 134 and 113 to Facility
 Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating
 Station, Unit Nos. 1 and 2. These amendments consist of changes to the
 Technical Specifications (TSs) in response to your application dated May 6,
 1992.

These amendments contain administrative changes associated with the Reactor
 Trip System Instrumentation, to provide consistency and ensure technical
 accuracy between Salem, Units 1 and 2.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be
 included in the Commission's biweekly Federal Register notice. You are
 requested to notify the NRC, in writing, when the amendments have been
 implemented at Salem, Units 1 and 2.

Sincerely,

/s/

James C. Stone, Senior Project Manager
 Project Directorate I-2
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 134 to
 License No. DPR-70
2. Amendment No. 113 to
 License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
 See next page

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Docket File	MO'Brien(2)	CGrimes, 11E21	JWhite, RGN-I
NRC & Local PDRs	JStone	DGarcia	SNewberry, 8H7
PDI-2 Reading	OGC	ACRS(10)	
SVarga	DHagan, 3206	OPA	
JCalvo	GHill(8), P1-22	OC/LFMB	
CMiller	Wanda Jones, 7103	EWenzinger, RGN-I	

OFC	: PDI-2/LA	: PDI-2/PM	: PDI-1/II	: OGC	: SICB/D	: PDI-2/D	:
NAME	: MO'Brien	: JStone:rb	: DGarcia	: SNewberry	: CMiller	:	
DATE	: 7/1/92	: 7/15/92	: 7/7/92	: 7/21/92	: 7/7/92	: 7/28/92	:

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 P PDR

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 111



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

July 29, 1992

Docket Nos. 50-272/311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: REACTOR TRIP SYSTEM INSTRUMENTATION, SALEM NUCLEAR GENERATING
STATION, UNITS 1 AND 2 (TAC NOS. M83353 AND M83354)

The Commission has issued the enclosed Amendment Nos. 134 and 113 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated May 6, 1992.

These amendments contain administrative changes associated with the Reactor Trip System Instrumentation, to provide consistency and ensure technical accuracy between Salem, Units 1 and 2.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice. You are requested to notify the NRC, in writing, when the amendments have been implemented at Salem, Units 1 and 2.

Sincerely,

A handwritten signature in cursive script that reads "James C. Stone".

James C. Stone, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 134 to
License No. DPR-70
2. Amendment No. 113 to
License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. Steven E. Miltenberger
Public Service Electric & Gas
Company

Salem Nuclear Generating Station,
Units 1 and 2

cc:

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Public Service Commission of Maryland
Engineering Division
ATTN: Chief Engineer
231 E. Baltimore Street
Baltimore, MD 21202-3486



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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 134
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated May 6, 1992, 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 set forth in 10 CFR Chapter I;
 - 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. DPR-70 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 134, are hereby incorporated in the license. The licensee 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 within 120 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Charles L. Miller

Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 29, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 134

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 3-2

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3/4 3-7

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Insert Pages

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3/4 3-3

3/4 3-4

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TABLE 3.3-1
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2	1	2	1,2 and *	12
2. Power Range, Neutron Flux	4	2	3	1,2	2
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1,2	2
4. Power Range, Neutron Flux High Negative Rate	4	2	3	1,2	2
5. Intermediate Range, Neutron Flux	2	1	2	1,2 and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2## and *	4
B. Shutdown	2	0	1	3,4, and 5	5
7. Overtemperature ΔT	4	2	3	1,2	6
8. Overpower ΔT	4	2	3	1,2	6
9. Pressurizer Pressure-Low	4	2	3	1,2	6
10. Pressurizer Pressure--High	4	2	3	1,2	6

TABLE 3.3-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
11. Pressurizer Water Level--High	3	2	2	1,2	7#
12. Loss of Flow - Single Loop (Above P-8)	3/loop	2/loop in any oper- ating loop	2/loop in each oper- ating loop	1	7#
13. Loss of Flow - Two Loops (Above P-7 and below P-8)	3/loop	2/loop in two oper- ating loops	2/loop in each oper- ating loop	1	7#
14. Steam Generator Water Level-- Low-Low	3/loop	2/loop in any oper- ating loops	2/loop in each oper- ating loop	1,2	7#
15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	2/loop-level and 2/loop- flow mismatch	1/loop-level coincident with 1/loop-flow mismatch in same loop	1/loop-level and 2/loop- flow mismatch or 2/loop- level and 1/loop-flow mismatch	1,2	7#
16. Undervoltage - Reactor Coolant Pumps	4-1/bus	1/2 twice	3	1	6
17. Underfrequency - Reactor Coolant Pumps	4-1/bus	1/2 twice	3	1	6

TABLE 3.3-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
18. Turbine Trip					
a. Low Autostop Oil Pressure	3	2	2	1	7#
b. Turbine Stop Valve Closure	4	4	3	1	7#
19. Safety Injection Input from ESF	2	1	2	1,2	1
20. Reactor Coolant Pump Breaker Position Trip (above P-7)	1/breaker	2	1/breaker per opera- ting loop	1	11
21. Reactor Trip Breakers	2	1	2	1,2 3*,4*,5*	1###, 14 13
22. Automatic Trip Logic	2	1	2	1,2 3*,4*,5*	1 13

TABLE 3.3-1 (Continued)

TABLE NOTATION

- * With the reactor trip system breakers in the closed position and the control rod drive system capable of rod withdrawal.
- # The provisions of Specification 3.0.4 are not applicable.
- ## High voltage to detector may be de-energized above P-6.
- ### If ACTION Stat - entered as a result of Reactor Trip Breaker (RTB) or Reactor Trip Breaker (RTBB) maintenance testing results exceeding the criteria, NRC reporting shall be made within 30 days per Specification 6.9.2:
3/8 3-5
Common
to Am. 133
Proof against Am. 133
discrepancy 4.8.92
 - 1. A RTB or RTBB having any surveillance test with less than eight added to the breaker trip bar.
 - 2. A RTB or RTBB failure that results in the overall reactor trip system response exceeding the Technical Specification limit.

ACTION STATEMENTS

- ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1 provided the other channel is OPERABLE.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
 - a. The inoperable channel is placed in the tripped condition within 1 hour.
 - b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.
 - c. Either, THERMAL POWER is restricted to $\leq 75\%$ of RATED THERMAL POWER and the Power Range, Neutron Flux trip setpoint is reduced to $\leq 85\%$ of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours.

TABLE 3.3-1 (Continued)

- ACTION 3 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
- a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.
 - b. Above P-6 but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.
 - c. Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.
- 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. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.
 - b. Above P-6, operation may continue.
- ACTION 5 - 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 or 3.1.1.2, as applicable, within 1 hour and at least once per 12 hours thereafter.
- ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour.
 - b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.
- ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.
- ACTION 8 - NOT USED

TABLE 3.3-1 (Continued)

- ACTION 9 - NOT USED
- ACTION 10 - NOT USED
- ACTION 11 - With less than the Minimum Number of Channels OPERABLE, operation may continue provided the inoperable channel is placed in the tripped condition within 1 hour.
- ACTION 12 - 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 HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.
- ACTION 13 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.
- ACTION 14 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and be in at least HOT STANDBY within 6 hours. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status.

REACTOR TRIP SYSTEM INTERLOCKS

<u>DESIGNATION</u>	<u>CONDITION AND SETPOINT</u>	<u>FUNCTION</u>
P-6	With 2 of 2 Intermediate Range Neutron Flux Channels $< 6 \times 10^{-11}$ amps.	P-6 prevents or defeats the manual block of source range reactor trip.
P-7	With 2 of 4 Power Range Neutron Flux Channels $\geq 11\%$ of RATED THERMAL POWER or 1 of 2 Turbine impulse chamber pressure channels \geq a pressure equivalent to 11% of RATED THERMAL POWER.	P-7 prevents or defeats the automatic block of reactor trip on: Low flow in more than one primary coolant loop, reactor coolant pump undervoltage and under-frequency, pressurizer low pressure, pressurizer high level, and the opening of more than one reactor coolant pump breaker.

TABLE 3.3-2 (Continued)REACTOR TRIP SYSTEM INSTRUMENTATION RESPONSE TIMES

<u>FUNCTIONAL UNIT</u>	<u>RESPONSE TIME</u>
12. Loss of Flow - Single Loop (Above P-8)	≤ 1.0 seconds
13. Loss of Flow - Two Loops (Above P-7 and below P-8)	≤ 1.0 seconds
14. Steam Generator Water Level-- Low-Low	≤ 2.0 seconds
15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	NOT APPLICABLE
16. Undervoltage-Reactor Coolant Pumps	≤ 1.2 seconds
17. Underfrequency-Reactor Coolant Pumps	≤ 0.6 seconds
18. Turbine Trip	
A. Low Fluid Oil Pressure	NOT APPLICABLE
B. Turbine Stop Valve	NOT APPLICABLE
19. Safety Injection Input from ESF	NOT APPLICABLE
20. Reactor Coolant Pump Breaker Position Trip	NOT APPLICABLE
21. Reactor Trip Breakers	NOT APPLICABLE
22. Automatic Trip Logic	NOT APPLICABLE



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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 113
License No. DPR-75

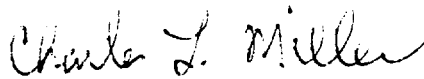
1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated May 6, 1992, 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 set forth in 10 CFR Chapter I;
 - 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. DPR-75 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 113, are hereby incorporated in the license. The licensee 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 within 120 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 29, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 113

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages

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Insert Pages

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3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

=====

3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks 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

=====

4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

4.3.1.1.3 The REACTOR TRIP 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 logic train such that both logic trains are tested at least once per 36 months and 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 TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2	1	2	1,2 and *	12
2. Power Range, Neutron Flux	4	2	3	1,2	2
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1,2	2
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1,2	2
5. Intermediate Range, Neutron Flux	2	1	2	1,2 and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2##, and *	4
B. Shutdown	2	0	1	3,4 and 5	5
7. Overtemperature ΔT	4	2	3	1,2	6
8. Overpower ΔT	4	2	3	1,2	6
9. Pressurizer Pressure-Low	4	2	3	1,2	6
10. Pressurizer Pressure--High	4	2	3	1,2	6

Salem - Unit 2

3/4 3-2

Amendment No. 113

TABLE 3.3-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
11. Pressurizer Water Level --High	3	2	2	1,2	7#
12. Loss of Flow - Single Loop (Above P-8)	3/loop	2/loop in any oper- ating loop	2/loop in each oper- ating loop	1	7#
13. Loss of Flow - Two Loops (Above P-7 and below P-8)	3/loop	2/loop in two oper- ating loops	2/loop in each oper- ating loop	1	7#
14. Steam Generator Water Level--Low-Low	3/loop	2/loop in any oper- ating loops	2/loop in each oper- ating loop	1,2	7#
15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	2/loop-level and 2/loop-flow mismatch	1/loop-level coincident with 1/loop-flow mismatch in same loop	1/loop-level and 2/loop-flow mismatch or 2/loop-level and 1/loop-flow mismatch	1,2	7#
16. Undervoltage-Reactor Coolant Pumps	4-1/bus	1/2 twice	3	1	6
17. Underfrequency-Reactor Coolant Pumps	4-1/bus	1/2 twice	3	1	6

TABLE 3.3-1 (Continued)
REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NUMBER OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
18. Turbine Trip					
a. Low Autostop Oil Pressure	3	2	2	1	7#
b. Turbine Stop Valve Closure	4	4	3	1	7#
19. Safety Injection Input from ESF	2	1	2	1,2	1
20. Reactor Coolant Pump Breaker Position Trip (above P-7)	1/breaker	2	1/breaker per opera- ting loop	1	11
21. Reactor Trip Breakers	2	1	2	1,2 3*,4*,5*	1###, 14 13
22. Automatic Trip Logic	2	1	2	1,2 3*,4*,5*	1 13

TABLE 3.3-1 (Continued)

TABLE NOTATION

- * With the reactor trip system breakers in the closed position and the control rod drive system capable of rod withdrawal.
- # The provisions of Specification 3.0.4 *Common PG*
- ## High voltage to detector may be de-en *to am. 112*
- ### If ACTION Statement 1 is entered as a *12, 6.8.92* Breaker
(RTB) or Reactor Trip Bypass Breaker *prec against Don't* ng
results exceeding the following accep *am 112* rting
shall be made within 30 days in accor *1.5* 6.9.2:
1. A RTB or RTBB trip failure during any surveillance test with less than or equal to 300 grams of weight added to the breaker trip bar.
 2. A RTB or RTBB time response failure that results in the overall reactor trip system time response exceeding the Technical Specification limit.

ACTION STATEMENTS

- ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1 provided the other channel is OPERABLE.
- ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour.
 - b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.
 - c. Either, THERMAL POWER is restricted to $\leq 75\%$ of RATED THERMAL POWER and the Power Range, Neutron Flux trip setpoint is reduced to $\leq 85\%$ of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours.
 - d. The QUADRANT POWER TILT RATIO, as indicated by the remaining three detectors, is verified consistent with the normalized symmetric power distribution obtained by using the movable in-core detectors in the four pairs of symmetric thimble locations at least once per 12 hours when THERMAL POWER is greater than 75% of RATED THERMAL POWER.

TABLE 3.3-1 (Continued)

- ACTION 3 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:
- a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.
 - b. Above P-6, but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.
 - c. Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.
 - d. Above 10% of RATED THERMAL POWER, the provisions of Specification 3.0.3 are not applicable.
- 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. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.
 - b. Above P-6, operation may continue.
- ACTION 5 - 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 or 3.1.1.2, as applicable, within 1 hour and at least once per 12 hours thereafter.
- ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 1 hour.
 - b. The Minimum Channel OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.
- ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition with 1 hour.

TABLE 3.3-1 (Continued)

- ACTION 8 - NOT USED
- ACTION 9 - NOT USED
- ACTION 10 - NOT USED
- ACTION 11 - With less than the Minimum Number of Channels OPERABLE, operation may continue provided the inoperable channel is placed in the tripped condition within 1 hour.
- ACTION 12 - 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 HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.
- ACTION 13 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.
- ACTION 14 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and be in at least HOT STANDBY within 6 hours. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status.

REACTOR TRIP SYSTEM INTERLOCKS

<u>DESIGNATION</u>	<u>CONDITION AND SETPOINT</u>	<u>FUNCTION</u>
P-6	With 2 of 2 Intermediate Range Neutron Flux Channels $< 6 \times 10^{-11}$ amps.	P-6 prevents or defeats the manual block of source range reactor trip.
P-7	With 2 of 4 Power Range Neutron Channels $\geq 11\%$ of RATED THERMAL POWER or 1 of 2 Turbine impulse chamber pressure channels \geq a pressure equivalent to 11% of RATED THERMAL POWER.	P-7 prevents or defeats Flux the automatic block of reactor trip on: Low flow in more than one primary coolant loop, reactor coolant pump undervoltage and under-frequency, pressurizer low pressure, pressurizer high level, and the opening of more than one reactor coolant pump breaker.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 134 AND 113 TO FACILITY OPERATING
LICENSE NOS. DPR-70 AND DPR-75
PUBLIC SERVICE ELECTRIC & GAS COMPANY
PHILADELPHIA ELECTRIC COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY
SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated May 6, 1992, the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2, Technical Specifications (TS). The requested changes would modify Technical Specification 3/4.3.1, Reactor Trip System Instrumentation, Limiting Conditions for Operation, Action Requirements, and Surveillance Requirements, including Associated Tables. These changes provide consistency between the units, to address various administrative discrepancies, and to ensure technical accuracy.

2.0 Evaluation

A. Renumbering of Line Items

Renumbering Limiting Condition for Operation 3.3.1 and Surveillance Requirements 4.3.1.1, 4.3.1.2, 4.3.1.3 as 3.3.1.1, 4.3.1.1.1, 4.3.1.1.2, and 4.3.1.1.3 respectively, for Unit 2 only, is to be consistent with Salem Unit 1 and to be more consistent with other specifications in the Salem Unit 2 Instrumentation Chapter.

Renumbering of line items within a specification is an administrative change, the staff concludes the proposed Technical Specification changes are acceptable.

B. Table 3.3-1 Modifications

1. FUNCTIONAL UNITS 7 and 8, Overtemperature ΔT and Overpower ΔT . Remove all references to three loop operation. Remove item title for four loop operation and align line items as required. (UNITS 1 AND 2).

The current Salem Accident Analysis does not support or permit three loop operation. This change removes all references to three and four loop operation. This change removes technical specification items that are not approved for Salem. This is an administrative change and the staff finds it acceptable.

2. FUNCTIONAL UNITS 7 and 8, Overtemperature ΔT and Overpower ΔT . Change applicable ACTION from 2 to 6. (UNIT 1 ONLY)

Action statements 2 and 6 are identical except that Action 2 contains an additional subpart "c" that only applies to Power Range Nuclear Instrumentation. The change ensures the correct actions are addressed and are consistent with Salem Unit 2 and Westinghouse Standard Technical Specifications. The staff finds this change acceptable.

3. FUNCTIONAL UNITS 16 and 17, Undervoltage -Reactor Coolant Pumps and Underfrequency - Reactor Coolant Pumps. Change the MINIMUM CHANNELS OPERABLE requirement from 4 to 3. (UNITS 1 AND 2)

Action 6 that is applicable to this functional unit, allows for continued operation provided a failed channel is placed in the tripped condition within a given time period, and the Minimum Channels Operable requirement is one less than the Total Number of Channels. Continued operation is not possible because the Minimum Channels Operable requirement is the same as the Total Number of Channels. By reducing the Minimum Channels Operable to one less than the Total Number of Channels and tripping the inoperable channel, the safety function of the system has not been degraded. This change will allow continued operation with one channel inoperable and will bring the technical specifications for this functional unit into conformance with the Westinghouse Standard Technical Specifications. The staff finds this change acceptable.

4. FUNCTIONAL UNIT 18, Turbine Trip. Add designators for line items: (a.) Low Autostop Oil Pressure and (b.) Turbine Stop Valve Closure. (UNIT 1 ONLY)

The designators being added to the two line items are consistent with other references in Salem Units 1 and 2 technical specifications and they ensure the Functional Units are identified properly. This is an administrative change and the staff finds it acceptable.

5. FUNCTIONAL UNIT 18b, Turbine Trip, Turbine Stop Valve Closure. Change the MINIMUM CHANNELS OPERABLE requirement from 4 to 3. (UNIT 2 ONLY)

Action 7 that is applicable to this functional unit, allows for continued operation provided a failed channel is placed in the tripped condition within a given time period, and the Minimum Channels Operable requirement is satisfied. Continued operation is not possible unless the Minimum Channels Operable requirement is at least one less than the Total Number of Channels. This change will allow continued operation with one channel inoperable and bring the technical specifications for this functional unit into conformance with the Westinghouse Standard Technical Specifications and the Salem Unit 1 technical specifications. The staff finds this change acceptable.

6. TABLE NOTATION **. Delete Notation (UNITS 1 AND 2)

By deleting the table notation **, this would remove the notation required for three loop operation. The current Salem Accident Analysis does not support or permit three loop operation. This change removes technical specification items that are not approved for Salem. The staff finds this change acceptable.

7. ACTION 2C. Add the word POWER after RATED THERMAL. (UNITS 1 AND 2)

This change was approved by amendments 133 and 112 dated June 8, 1992, for Salem Units 1 and 2, respectively.

8. ACTION 3. Move entire Action to page 3/4 3-6. (UNIT 1 ONLY)

Action 3 is listed at the end of the page with the associated subparts following on the next page. By moving the entire Action to page 3/4 3-6, this will minimize the potential of not reading the entire action. This is an administrative change and the staff finds it acceptable.

9. ACTION 3. Add title ACTION 3 to the associated Action. (UNIT 2 ONLY)

The change to add the title ACTION 3 would correct the typographical error. This is an administrative change and the staff finds it acceptable.

10. ACTIONS 3a, 3b, 4a, and 4b. Delete "the" prior to P-6 and "(Block of Source Range Reactor Trip) setpoint" after P-6. (UNIT 2 ONLY)

The description is being deleted to provide a more concise action requirement and to provide consistency with Unit 1. The Reactor Trip system Interlocks are defined at the end of Table 3.3-1. This is an administrative change and the staff finds it acceptable.

11. ACTION 8. Add ACTION 8 and mark as NOT USED. (UNITS 1 AND 2)

Action 8 is being added to eliminate the possible confusion of an action number not being addressed. There are no functional Units that reference Action 8. This is an administrative change and the staff finds it acceptable.

12. ACTION 9. Delete the current action and mark as NOT USED. (UNITS 1 AND 2)

Action 9 was applicable for three loop operation. The current Salem Accident Analysis does not support or permit three loop operation. There are no Functional Units that reference Action 9. This change removes technical specification items that are not approved for Salem. The staff finds this change acceptable.

13. ACTION 10. Change Deleted to NOT USED. (UNITS 1 AND 2)

NOT USED provides a more precise description and allows for consistency within the technical specifications. This is an administrative change and the staff finds it acceptable.

C. TABLE 3.3-2 MODIFICATIONS

1. FUNCTIONAL UNIT 21. Add Functional Unit 21, Reactor Trip Breakers, Not Applicable. (UNIT 1 ONLY)

This Functional Unit was omitted from Table 3.3-2. The change allows for consistency with the other tables in the specification.

2. FUNCTIONAL UNIT 22. Add Functional Unit 22, Automatic Trip Logic, Not Applicable. (UNIT 1 ONLY)

This Functional Unit was omitted from Table 3.3-2. The change allows for consistency with the other tables in the specification.

These changes to Table 3.3-2, ensures all functional units are addressed on each table and brings the Unit 1 table into conformance with the Unit 2 table. These are administrative changes, and the staff finds the changes to the Technical Specifications acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (57 FR 24678). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Denise M. Garcia

Date: July 29, 1992