

September 25, 1989

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: ROD POSITION VERIFICATION REQUIREMENTS (TAC NOS. 71102/71103)

RE: SALEM GENERATING STATION, UNIT NOS. 1 AND 2

The Commission has issued the enclosed Amendment Nos. 103 and 80 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 23, 1988 and supplemented on January 26, 1989 and May 22, 1989. The January 26, 1989 supplement withdraw a portion of the original request. The May 22, 1989 supplement clarified the one hour soak period before rod position verification.

These amendments modify Surveillance Requirements 4.1.3.4 and 4.1.3.5 by removing the requirement to verify rod position within one hour after rod motion and clarify the applicability of Surveillance Requirement 4.1.3.4.a.

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

Sincerely,

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

Enclosures:

1. Amendment No. 103 to License No. DPR-70
2. Amendment No. 80 to License No. DPR-75
3. Safety Evaluation

cc w/enclosures:
See next page

DFOI
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CP-1

DISTRIBUTION w/enclosures:

Docket File	MO'Brien (2)	Wanda Jones	Brent Clayton	NRC PDR
OGC	JCalvo	EWenzinger	Local PDR	DHagan
Tech Branch	PDI-2 Reading	EJordan	ACRS (10)	WButler
BGrimes	CMiles, GPA/PA	JStone/MThadani	TMeek (8)	RDiggs, ARM/LFMB

Previously concurred*

PDI-2/LA*	PDI-2/PM*	OGC <i>att</i>	PDI-2/D <i>B</i>	SRXB*
MO'Brien	JStone:tr		WButler	WHodges
07/12/89	07/12/89	8/31/89	9/12/89	07/13/89

[MILTENBERGER LETTER]

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

September 25, 1989

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RE: SALEM GENERATING STATION, UNIT NOS. 1 AND 2

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

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. 103 to
License No. DPR-70
2. Amendment No. 80 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

cc:

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Division of Environmental Quality
Bureau of Nuclear Engineering
State of New Jersey
CN 415
Trenton, NJ 08625



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 GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 103
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 June 23, 1988 and supplemented on January 26, 1989 and May 22, 1989 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:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 103, 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 to be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 25, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 103

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 1-22
3/4 1-23

Insert Pages

3/4 1-22
3/4 1-23

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEM SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.4 All shutdown rods shall be FULLY WITHDRAWN.

APPLICABILITY: MODES 1*, and 2*#@

ACTION:

With a maximum of one shutdown rod not FULLY WITHDRAWN, except for surveillance testing pursuant to Specification 4.1.3.1.2, within one hour either:

- a. FULLY WITHDRAW the rod, or,
- b. Declare the rod to be inoperable and apply Specification 3.1.3.1.

SURVEILLANCE REQUIREMENTS

4.1.3.4 Each shutdown rod shall be determined to be FULLY WITHDRAWN by use of the group demand counters, and verified by the analog rod position indicators**:

- a. Within 15 minutes prior to withdrawal of any rods in control banks A, B, C, or D during an approach to reactor criticality, and
- b. At least once per 12 hours thereafter.

*See Special Test Exceptions 3.10.2 and 3.10.3

**For power levels below 50% one hour thermal "soak time" is permitted.

During this soak time, the absolute value of rod motion is limited to six steps.

#With Keff greater than or equal to 1.0

@Surveillance 4.1.3.4.a is applicable prior to withdrawing control banks in preparation for startup (Mode 2).

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEM SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.5 The control banks shall be limited in physical insertion as shown in Figures 3.1-1 and 3.1-2.

APPLICABILITY: MODES 1*, and 2*#

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, either:

- a. Restore the control banks to within the limits within two hours, or
- b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the bank position using the above figures, or
- c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.5 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours by use of the group demand counters and verified by the analog rod position indicators** except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions at least once per 4 hours**.

*See Special Test Exceptions 3.10.2 and 3.10.3

**For power levels below 50% one hour thermal "soak time" is permitted.

During this soak time, the absolute value of rod motion is limited to six steps.

#With K_{eff} greater than or equal to 1.0



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 GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 80
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 June 23, 1988 and supplemented on January 26, 1989 and May 22, 1989 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. 80, 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 to be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 25, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 80

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages

3/4 1-19

3/4 1-20

Insert Pages

3/4 1-19

3/4 1-20

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEM SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.4 All shutdown rods shall be fully withdrawn.

APPLICABILITY: MODES 1*, and 2*#@

ACTION:

With a maximum of one shutdown rod not fully withdrawn, except for surveillance testing pursuant to Specification 4.1.3.1.2, within one hour either:

- a. Fully withdraw the rod, or,
- b. Declare the rod to be inoperable and apply Specification 3.1.3.1.

SURVEILLANCE REQUIREMENTS

4.1.3.4 Each shutdown rod shall be determined to be fully withdrawn by use of the group demand counters, and verified by the analog rod position indicators**:

- a. Within 15 minutes prior to withdrawal of any rods in control banks A, B, C, or D during an approach to reactor criticality, and
- b. At least once per 12 hours thereafter.

*See Special Test Exceptions 3.10.2 and 3.10.3

**For power levels below 50% one hour thermal "soak time" is permitted.

During this soak time, the absolute value of rod motion is limited to six steps.

@Surveillance 4.1.3.4.a is applicable prior to withdrawing any control banks in preparation for startup (Mode 2).

#With Keff greater than or equal to 1.0

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEM SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.5 The control banks shall be limited in physical insertion as shown in Figures 3.1-1 and 3.1-2.

APPLICABILITY: MODES 1*, and 2*#

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, either:

- a. Restore the control banks to within the limits within two hours, or
- b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the bank position using the above figures, or
- c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.5 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours by use of the group demand counters and verified by the analog rod position indicators** except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions at least once per 4 hours**.

*See Special Test Exceptions 3:10.2 and 3.10.3

**For power levels below 50% one hour thermal "soak time" is permitted.

During this soak time, the absolute value of rod motion is limited to six steps.

#With Keff greater than or equal to 1.0



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 103 AND 80 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 GENERATING STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated June 23, 1988 and supplemented on January 26, 1989 and May 22, 1989, Public Service Electric & Gas Company requested an amendment to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Generating Station, Unit Nos. 1 and 2. The proposed amendments would delete the requirement to verify shutdown rod positions (Surveillance Requirement 4.1.3.4) and control bank positions (Surveillance Requirement 4.1.3.5) within one hour after rod motion. The May 22, 1989 letter added a footnote to Surveillance Requirement 4.1.3.4 and 4.1.3.5 to allow a 1 hour thermal soak for power levels below 50% before making the comparison between the group demand counters and the analog rod position indicators. Also, the applicability of Surveillance Requirement 4.1.3.4.a would be clarified by adding a footnote stating that it is applicable prior to withdrawing control banks, in preparation for Startup (Mode 2) while in Hot Standby (Mode 3).

2.0 EVALUATION

Technical Specification Surveillance 4.1.3.4 is intended to provide a means of performing the surveillance on the shutdown rods within 15 minutes prior to withdrawal of any rods in the control bank and at least once per 12 hours thereafter.

Technical Specification Surveillance 4.1.3.5 is intended to provide a means of performing the surveillance on the control rods to be within the insertion limits at least once per 12 hours or at least once per 4 hours if the Rod Insertion Limit Monitor is inoperable.

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The original request was submitted to alleviate difficulties encountered in calibration of the Analog Rod Position Indication (ARPI) system. This change shifted rod position determination from the ARPI to the group demand counters with subsequent verification by the ARPIS. Comparison of group demand counters to the ARPIS (allowing one hour for thermal soak after rod motion) was sufficient verification of the rod position. The requirements of Technical Specification 3.1.3.2.1 that the capability exists to determine rod position "within one hour of rod motion (allowance for thermal soak)" was apparently transposed to require verification of rod position within one hour of rod motion in other specifications.

As now worded in the surveillance specification, compliance with the requirement to verify control bank positions within one hour of rod motion precludes Automatic Rod Control since the operator would have to account for every rod motion. This is not practical nor necessary since the operator uses the appropriate indication during rod manipulations.

There is no basis to support the requirement to document a verification of shutdown or control rod position after each movement of rods. The bases section of both the Salem and Westinghouse Standard Technical Specifications state that: "Rod position and OPERABILITY of the rod position indicators are required to be verified on a nominal basis of once per 12 hours with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied."

Further indication that the wording in Section 4.1.3.4 and 4.1.3.5 is in error is found in Sections 4.1.3.1.1 and 4.1.3.2.1.1 which both state that comparison of the group demand position indicators and the ARPI should be performed once per 12 hours (allowing one hour for thermal soak after rod motion). Additionally, the licensee has reviewed the Technical Specifications from 25 Westinghouse plants and found that the requirement to verify rod position within one hour of rod motion is unique to the Salem Technical Specifications.

The allowance for a one hour thermal soak following rod motion at power levels below 50% is acceptable and desirable. Above 50% power, rod motions are expected to be small and are not expected to induce significant thermal transients in the analog rod position channels. By letter dated May 22, 1989 the licensee proposed adding a footnote to sections 4.1.3.4 and 4.1.3.5 to allow the one hour thermal soak time.

A footnote was added and other changes were made to clarify that Specification 4.1.3.4.a is applicable only when withdrawing control banks in preparation for Mode 2. Mode 2 is defined as Keff greater than or equal to 0.99. Control banks can be pulled prior to Keff reaching 0.99. Therefore, as currently written, Specification 4.1.3.4.a does not correspond with the applicability statement.

The licensee's original request proposed replacing Surveillance Requirement 4.1.3.4.a, "within 15 minutes prior to withdrawal of any rods in control banks A, B, C or D during an approach of reactor critically (sic)" with "within 15 minutes prior to withdrawal of any control bank during an approach to critically (sic)." The licensee's January 26, 1989 supplement withdrew this portion of the original request. The January 26, 1989 supplement also corrected the spelling of the word "criticality" in the Technical Specifications.

The staff finds the proposed changes to Surveillance Requirements 4.1.3.4, 4.1.3.4.a and 4.1.3.5 to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The 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. 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.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (54 FR 1024) on January 11, 1989 and (54 FR 3511) on August 23, 1989 and consulted with the State of New Jersey. No public comments were received and the State of New Jersey did not have any comments.

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: Jim Stone

Dated: September 25, 1989