

December 5, 2000

Mr. Harold W. Keiser  
Chief Nuclear Officer & President  
PSEG Nuclear LLC - X04  
Post Office Box 236  
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2, ISSUANCE OF  
AMENDMENT RE: AUXILIARY FEEDWATER PUMP SURVEILLANCE TEST  
REQUIREMENTS (TAC NOS. MA8290 AND MA8291)

Dear Mr. Keiser:

The Commission has issued the enclosed Amendment Nos. 238 and 219 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 February 7, 2000, as supplemented on August 9 and October 12, 2000.

The amendments revise surveillance requirements associated with Auxiliary Feedwater Pump testing in TS 4.7.1.2.b by replacing the current wording with that of improved Standard TSs, NUREG-1431, "Standard Technical Specifications, Westinghouse Plants."

In addition, on August 21, 2000, the licenses for Salem, to the extent held by PSE&G, were transferred to PSEG Nuclear Limited Liability Company (PSEG Nuclear). In a letter dated September 6, 2000, PSEG Nuclear stated that it has assumed responsibility, as of the date of the transfer, for the active items on the Salem dockets previously submitted by PSE&G, including the subject amendment requests.

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

Sincerely,

*/RA/*

Robert J. Fretz, Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Enclosures: 1. Amendment No. 238 to License No. DPR-70  
2. Amendment No. 219 to License No. DPR-75  
3. Safety Evaluation

cc w/encls: See next page

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3. Safety Evaluation

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ACCESSION NUMBER: ML003769036      TEMPLATE = NRR-058      \* See previous concurrence

OFFICE	PDI-2/PM	PDI-2/LA	SPLB/SC*	OGC	PDI-2/SC
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PSEG NUCLEAR LLC

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. 238  
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 PSEG Nuclear LLC, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated February 7, 2000, as supplemented on August 9 and October 12, 2000, 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. 238 , 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/ V. Neres for*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: December 5, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 238

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

3/4 7-6

B 3/4 7-2

Insert Pages

3/4 7-6

B 3/4 7-2

PSEG NUCLEAR LLC

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. 219  
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 PSEG Nuclear LLC, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated February 7, 2000, as supplemented on August 9 and October 12, 2000, 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. 219 , 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/ V. Neres for*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: December 5, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 219

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

3/4 7-6

B 3/4 7-2

Insert Pages

3/4 7-6

B 3/4 7-2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 238 AND 219 TO FACILITY OPERATING

LICENSE NOS. DPR-70 AND DPR-75

PSEG NUCLEAR LLC

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

By letter dated February 7, 2000, as supplemented on August 9 and October 12, 2000, the Public Service Electric & Gas Company (PSE&G) submitted a request for changes to the Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2, Technical Specifications (TSs). The requested changes would revise surveillance requirements associated with Auxiliary Feedwater (AFW) Pump testing in TS 4.7.1.2.b by replacing the current wording with that of improved Standard TSs, NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." The August 9 and October 12, 2000, letters provided clarifying or other information that did not change the initial proposed no significant hazards consideration determination.

On August 21, 2000, the licenses for Salem, to the extent held by PSE&G, were transferred to PSEG Nuclear Limited Liability Company (PSEG Nuclear/licensee). In a letter dated September 6, 2000, PSEG Nuclear stated that it has assumed responsibility, as of the date of the transfer, for the active items on the Salem dockets previously submitted by PSE&G, including this amendment request.

## 2.0 BACKGROUND

The AFW system serves as a backup system for supplying feedwater to the secondary side of the steam generators when the main feedwater system is not available. In order to determine AFW centrifugal pump performance, the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code), Section XI, includes provisions for flow and differential head (pressure) testing. Since injecting cold AFW water into steam generators while operating would result in adverse consequences, TS surveillance testing is performed by recirculating AFW pump flow. At Salem, the current TS surveillance testing specifies and confirms one point on the pump design (head vs. flow) curve, and the acceptance criteria is based solely on the pump developing a minimum required discharge pressure. Although the licensee has stated that it does not interpret its TS surveillance requirement (SR) in the

following manner, PSEG Nuclear could satisfactorily complete pump testing by varying flow between zero gallons per minute (gpm) and any amount that could be accommodated by the AFW pump recirculation piping system in order to obtain the proper discharge pressure. Therefore, the licensee stated in its amendment application that the proposed TS change would eliminate potential non-conservative acceptance values by adopting the language of the improved Standard TSs (STS).

### 3.0 EVALUATION

The current Salem TS SR 4.7.1.2.b requires that the licensee: (1) verify that each motor driven pump develops a discharge pressure of greater than or equal to 1275 psig on recirculating flow; and (2) verify that the steam turbine driven pump develops a discharge pressure of greater than or equal to 1500 psig on recirculating flow when the secondary steam generator pressure is greater than 680 psig. However, as the licensee pointed out, the acceptance criteria provided in the current TS is not adequate to assure AFW pump performance since the minimum flow rates through the recirculation line at specified discharge pressures are not delineated.

The licensee proposes to change the current TS to the wording consistent with that in the STS which will require that PSEG Nuclear: (1) verify that the developed head of each motor driven pump at the flow test point is greater than or equal to the required developed head; and (2) verify that the developed head of the steam driven pump at the flow test point is greater than or equal to the required developed head when the steam generator pressure is greater than 680 psig.

In its letter dated February 7, 2000, the licensee indicated that in the initial development of minimum AFW pump flow as required by the Updated Final Safety Analysis Report (UFSAR) Chapter 15 safety analyses, the design pump curve as provided by the pump manufacture was used in the flow calculation model without explicitly accounting for pump degradation. Also, the initial model added extra conservatism and generic margins than would normally be required in a model to predict minimum required pump flow. The licensee has recalculated an acceptable level of pump degradation utilizing actual pump flow measurements. The new calculated minimum AFW pump flow will be used as the acceptance criteria in the future surveillance tests.

In response to Nuclear Regulatory Commission (NRC) staff questions regarding the new calculated minimum AFW pump flow relative to the current safety analyses assumptions, the licensee indicated in its letter dated August 9, 2000, that the recalculated flows are lower than those previously calculated without specifically accounting for pump degradation. However, when these calculated flows are compared to the flows assumed in the pertinent Chapter 15 analyses, the current safety analyses remain valid.

In its letters dated February 7 and August 9, 2000, the licensee stated that it intends to relocate the acceptance criteria for the AFW pump surveillance tests to its pump testing procedures. The acceptance criteria have been re-specified as derived from the new recalculated flows. The new acceptance criteria includes the minimum acceptable flow required to ensure that an AFW pump will not be considered as operable if it has degraded to a condition that will not support the Chapter 15 safety analysis assumed flow. The NRC staff was concerned that the acceptance criteria for the surveillance tests of AFW pumps specified in testing procedures may

not be always subject to the requirements of Title 10 of the *Code of Federal Regulations*, Section 50.59 (10 CFR 50.59).

In response to the NRC staff's concerns, the licensee stated in its letter dated October 12, 2000, that: (1) the TS Bases 3/4.7.1.2. will be modified to indicate that the AFW pump surveillance tests will ensure the assumptions made in the accident analysis remain valid; and (2) the licensee will revise the Salem UFSAR description relative to the AFW system design basis requirements. The proposed enhancement will specify the minimum design limit value to which the pump performance must be verified to ensure that design basis analyses assumptions are met, and include a statement to acknowledge that the specified design limit value includes margins to cover instrument uncertainties associated with testing equipment. The licensee stated that this revision will be submitted in the next Salem UFSAR update scheduled for the fall 2001. The above licensee-proposed changes will assure that any future changes to these acceptance criteria will be, as a minimum, subject to an applicability review under 10 CFR 50.59.

The NRC staff has previously determined that NEI 99-04, "Guidelines for Managing NRC Commitments," contains acceptable guidance for controlling regulatory commitments made to the NRC. Therefore, the staff finds that the licensee's commitment to enhance the description of the AFW system at the next scheduled UFSAR update, as managed within the scope PSEG Nuclear's commitment management program, to be acceptable.

Based on its review, the NRC staff has determined that the proposed changes to TS SR 4.7.1.2.b will provide reasonable assurance that the surveillance tests to assure that the AFW pump performance adequately support safety analyses currently documented in UFSAR. In addition, the licensee's proposed change is consistent with NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Therefore, the staff finds that the proposed changes are acceptable.

#### 4.0 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.

#### 5.0 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 and changes surveillance requirements. 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 (65 FR 37428). 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.

## 6.0 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.

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Date: December 5, 2000

PSEG Nuclear LLC

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Unit Nos. 1 and 2

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