

May 18, 1993

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: ELECTRIC HYDROGEN RECOMBINER SURVEILLANCE REQUIREMENTS CHANGES,  
SALEM NUCLEAR GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M85502 AND  
M85503)

The Commission has issued the enclosed Amendment Nos. 141 and 120 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  
January 18, 1993.

These amendments revise TS Section 4.6.4.2 regarding the surveillance  
requirements of the Electric Hydrogen Recombiners to make the requirements  
more conservative for Unit 2 and more technically correct for Unit 1 and to  
allow consistency between the Units.

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. 141 to License No. DPR-70
- 2. Amendment No. 120 to License No. DPR-75
- 3. Safety Evaluation

cc w/enclosures:  
See next page

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OFC	: PDI-2/PM	: PDI-2/PE	: PDI-2/PM	: OGC	: PDI-2/D
NAME	: MO'Brien	: APelletier	: JStone:rb	: C Masco with comments for	: CMiller
DATE	: 2/11/93	: 4/16/93	: 4/16/93	: 5/3/93	: 5/18/93

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

May 18, 1993

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: ELECTRIC HYDROGEN RECOMBINER SURVEILLANCE REQUIREMENTS CHANGES,  
SALEM NUCLEAR GENERATING STATION, UNITS 1 AND 2 (TAC NOS. M85502 AND  
M85503)

The Commission has issued the enclosed Amendment Nos. 141 and 120 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 January 18, 1993.

These amendments revise TS Section 4.6.4.2 regarding the surveillance requirements of the Electric Hydrogen Recombiners to make the requirements more conservative for Unit 2 and more technically correct for Unit 1 and to allow consistency between the Units.

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. 141 to License No. DPR-70
2. Amendment No. 120 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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Joint Owners Affairs  
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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. 141  
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 January 18, 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 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. 141, 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 after the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



*for* 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: May 18, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 141

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 6-19

3/4 6-20

Insert Pages

3/4 6-19

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CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION  
=====

3.6.4.2 Two independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS  
=====

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

- a. At least once per 6\* months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to  $\geq 700^{\circ}\text{F}$  within 90 minutes and (upon reaching  $700^{\circ}\text{F}$ ) verifying that, after increasing the power setting to maximum power for 2 minutes, the power meter reads  $\geq 60$  kW.
- b. At least once per 18 months by:
  1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.
  2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosures (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)
  3. Verifying during a recombiner system functional test that the heater sheath temperature increases to  $\geq 1200^{\circ}\text{F}$  within 5 hours and is maintained for at least 4 hours.
  4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be  $\geq 10,000$  ohms.

\* NOTE: The requirements of this 6 month system functional test can be met by satisfactory completion of the 18 month system functional test in Specification 4.6.4.2.b on those occasions where performance of both tests would be required at or near the same time.



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. 120  
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 January 18, 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 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. 120, 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 of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



for 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: May 18, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 120

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Page

3/4 6-22

Insert Page

3/4 6-22

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION  
=====

3.6.4.2 Two independent containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS  
=====

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

- a. At least once per 6\* months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to  $\geq 700^{\circ}\text{F}$  within 90 minutes and (upon reaching  $700^{\circ}\text{F}$ ) verifying that, after increasing the power setting to maximum power for 2 minutes, the power meter reads  $\geq 60$  kW.
- b. At least once per 18 months by:
  1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.
  2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosures (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)
  3. Verifying, during a recombiner system functional test, that the heater sheath temperature increases to  $\geq 1200^{\circ}\text{F}$  within 5 hours and is maintained for at least 4 hours.
  4. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

\* NOTE: The requirements of this 6 month system functional test can be met by satisfactory completion of the 18 month system functional test in Specification 4.6.4.2.b on those occasions where performance of both tests would be required at or near the same time.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NOS. 141 AND 120 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 January 18, 1993, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Units 1 and 2, Technical Specifications (TS). The requested changes would revise TS Section 4.6.4.2, "Electric Hydrogen Recombiners" by:

- a. changing both Unit 1 and Unit 2 TS Sections 4.6.4.2.a (6-month surveillance) system functional test wording to more correct technique description and wording similar to the current Unit 2 TS.
- b. adding an asterisked note to both the Unit 1 and Unit 2 TS Sections 4.6.4.2.a stating that the requirements of the 6-month system functional test can be met by satisfactory completion of the more demanding 18-month system functional test when the tests fall due at or near the same time.
- c. adding to the Unit 2 TS Section 4.6.4.2.b (18-month surveillance) the system functional test described in the Unit 1 TS Section 4.6.4.2.b.3.

2.0 EVALUATION

The proposed changes would take the more conservative and technically accurate recombiner system requirements from both units' TS and combine them into a common set of requirements, providing consistency between the two units.

The Unit 2 TS Section 4.6.4.2.a is more correct in describing the technique used to verify the power meter reading during the 6-month surveillance requirement. The proposed change slightly revises the Unit 2 TS wording and replaces the wording in the Unit 1 TS, making the TS correct and consistent between the two units.

The asterisked note added to both Unit 1 and Unit 2 TS Sections 4.6.4.2.a would reduce unnecessary and duplicative cycling of recombiner equipment by taking credit for the 18-month surveillance requirements as also satisfying the 6-month surveillance requirements when both tests fall due at roughly the same time.

The Unit 1 TS Section 4.6.4.2.b.3 18-month surveillance requirement regarding verifying, during a recombiner system functional test, that the heater sheath temperature increases to  $\geq 1200^{\circ}\text{F}$  within 5 hours and is maintained for at least 4 hours, is not currently included in the Unit 2 18-month surveillance requirement. Salem station is performing the surveillance on both Units. This change would make the Unit 2 TS more accurate and consistent with the Unit 1 TS, would officially require testing currently being performed, and would provide acceptance criteria (the same as is used on Unit 1) upon which to base test procedures for Unit 2.

The staff, with concurrence from the licensee by teleconference, made administrative changes to Surveillance Requirement 4.6.4.2.b.2. The reference to "recombiner enclosures" was made consistent between Units 1 and 2. This does not change the initial proposed no significant hazards consideration determination.

These proposed changes are consistent with requirements currently in the Salem Station TS, and are more restrictive than what the Westinghouse Standard TS require. The staff finds the proposed changes 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 and change 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 (58 FR 8780). 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: A. Pelletier

Date: May 18, 1993