

Docket File



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 27, 1994

Docket Nos. 50-272
and 50-311

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: COMBUSTIBLE GAS CONTROL AND AUXILIARY FEEDWATER SYSTEM, SALEM
NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 (TAC NOS. M89443 AND
M89444)

The Commission has issued the enclosed Amendment Nos. 153 and 134 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 3, 1994.

These amendments modify the TS for Combustible Gas Control (3/4.6.4.1) by
changing the surveillance frequency for performing the channel functional test
to once-per-quarter and the channel calibration to once-per-refueling. Also,
the TS for the Auxiliary Feedwater System (3/4.7.1.2) is changed to reduce the
surveillance frequency for performing pump operability tests to once-per-
quarter on a staggered test basis. These changes are consistent with the
provisions of Generic Letter 93-05, "Line-Item Technical Specifications
Improvements to Reduce Surveillance Requirements For Testing During Power
Operation."

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Mr. Steven E. Miltenberger

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July 27, 1994

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 these amendments have been implemented at Salem, Units 1 and 2.

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

cc w/enclosures:
See next page

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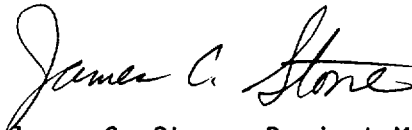
Mr. Steven E. Miltenberger

- 2 -

July 27, 1994

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 these 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. 153 to
License No. DPR-70
2. Amendment No. 134 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

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

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. 153
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 3, 1994, 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. 153, 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

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 27, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 153

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 6-18

3/4 7-5

3/4 7-6

Insert Pages

3/4 6-18

3/4 7-5

3/4 7-6

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen analyzers shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

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

With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen analyzer shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 92 days, and at least once per Refueling by performing a CHANNEL CALIBRATION using sample gases containing:

- a. Two volume percent hydrogen (low span), balance Nitrogen, and
- b. Six volume percent hydrogen (high span), balance Nitrogen.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated manual activation switches in the control room and flow paths shall be OPERABLE with:

- a. Two feedwater pumps, each capable of being powered from separate vital busses, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying that each non-automatic valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
 2. Verify the manual maintenance valves in the flow path to each steam generator are locked open.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (continued)

- b. At least once per 92 days on a STAGGERED TEST BASIS by:
 - 1. Verifying that each motor-driven pump develops a discharge pressure of greater than or equal to 1275 psig on recirculation flow.
 - 2. Verifying that the steam turbine-driven pump develops a discharge pressure of greater than or equal to 1500 psig on recirculation flow when the secondary steam supply pressure is greater than 750 psig. The provisions of Specification 4.0.4 are not applicable.
- c. At least once per 18 months during shutdown by:
 - 1. Verifying that each automatic valve in the motor driven pump flow path actuates to its correct position on a pump discharge pressure test signal.
 - 2. Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of each auxiliary feedwater actuation test signal.



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

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. 134
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 3, 1994, 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. 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 60 days after 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 27, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 134

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages

3/4 6-21

3/4 7-5

3/4 7-6

Insert Pages

3/4 6-21

3/4 7-5

3/4 7-6

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen analyzers shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

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

With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen analyzer shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 92 days, and at least once per Refueling by performing a CHANNEL CALIBRATION using sample gas containing:

- a. Two volume percent hydrogen (low span), balance Nitrogen, and
- b. Six volume percent hydrogen (high span), balance Nitrogen.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated manual activation switches in the control room and flow paths shall be OPERABLE with:

- a. Two feedwater pumps, each capable of being powered from separate vital busses, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
 1. Verifying that each non-automatic valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
 2. Verify the manual maintenance valves in the flow path to each steam generator are locked open.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 92 days on a STAGGERED TEST BASIS by:
 - 1. Verifying that each motor-driven pump develops a discharge pressure of greater than or equal to 1275 psig on recirculation flow.
 - 2. Verifying that the steam turbine-driven pump develops a discharge pressure of greater than or equal to 1500 psig on recirculation flow when the secondary steam supply pressure is greater than 750 psig. The provisions of Specification 4.0.4 are not applicable.
- c. At least once per 18 months during shutdown by:
 - 1. Verifying that each automatic valve in the motor driven pump flow path actuates to its correct position on a pump discharge pressure test signal.
 - 2. Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of each auxiliary feedwater actuation test signal.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 153 AND 134 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 3, 1994, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2, Technical Specifications (TS). The requested changes would modify the surveillance frequency for Combustible Gas Control channel functional test to once-per-quarter and the channel calibration to once-per-refueling. Also, the surveillance frequency for the Auxiliary Feedwater (AFW) System pump operability test would be changed to once-per-quarter.

2.0 EVALUATION

The NRC has completed a comprehensive examination of surveillance requirements in TS that require testing at power. The evaluation is documented in NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," dated December 1992. The NRC staff found that, while the majority of testing at power is important, safety can be improved, equipment degradation decreased, and an unnecessary burden on personnel resources eliminated by reducing the amount of testing at power that is required by technical specifications. Based on the results of the evaluations documented in NUREG-1366, the NRC issued Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operation," dated September 27, 1993.

Consistent with Generic Letter 93-05, Item 5.4 and NUREG-1366, the licensee is requesting to change TS surveillance requirement 4.6.4.1, "Hydrogen Analyzers" for the channel functional test to at least once per 92 days and the channel calibration to at least once per refueling.

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Current TS surveillance requirement 4.6.4.1, requires each hydrogen analyzer to be demonstrated operable by the performance of a channel check at least once per 12 hours, a channel functional test at least once per 31 days, and a channel calibration using sample gases containing two volume percent hydrogen and one containing six volume percent hydrogen at least once per 92 days on a staggered test basis.

Hydrogen analyzers are used to monitor hydrogen concentration in the containment following a loss of coolant accident (LOCA) and are designed in accordance with NUREG-0737, "Clarification of TMI Action Plan Requirements" and Regulatory Guide 1.97, "Information For Light-Water-Cooled Nuclear Power Plants To Assess And Environs Conditions During And Following An Accident." These monitors are used only after a LOCA to tell the operator when to initiate the hydrogen recombiners.

The AFW system supplies water to the steam generators to remove decay heat from the reactor coolant system. Currently, to ensure operability of the AFW system, Salem, Unit Nos. 1 and 2, TS 4.7.1.2 "Auxiliary Feedwater System," requires that the AFW pumps be tested on a monthly basis. Consistent with Generic Letter 93-05, Item 9.1 and NUREG-1366, the licensee is requesting a change to the surveillance testing frequency for the AFW pumps from monthly to quarterly on a staggered test basis.

The AFW system in each unit is equipped with one turbine-driven and two motor-driven AFW pumps. Steam for the turbine-driven pump is taken from two of the four main steam lines upstream of the steam generator stop valves. The motor-driven pumps receive power from the 4KV vital buses.

In the past, the NRC has required monthly testing of the AFW pumps. However, as specified in NUREG-1366 and NRC Generic Letter 93-05, operating and testing experience has indicated that the monthly testing requirement of the AFW pumps is not necessary to adequately ensure that the AFW pumps will perform their intended function.

The amendment request would require the AFW pumps to be tested quarterly on a staggered basis. This new testing frequency should reduce the AFW system unavailability resulting from failures and equipment degradation and result in increased system reliability. The test to be performed will satisfy the current TS requirements as well as those identified in the ASME Code, Section XI.

The proposed changes are consistent with the intent of NUREG-1366. Also, the proposed changes are in conformance with NRC Generic Letter 93-05, Items 5.4 and 9.1 regarding surveillance requirements for the hydrogen analyzer and AFW pumps. Therefore, 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 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 (59 FR 29634). 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: J. Zimmerman

Date: July 27, 1994