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DEC 27 1982

Docket No. 50-272

Mr. Richard A. Uderitz
 Vice President - Nuclear
 Public Service Electric and Gas Company
 Post Office Box 236
 Hancocks Bridge, New Jersey 08038

Dear Mr. Uderitz:

The Commission has issued the enclosed Amendment No. 50 to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your request dated October 5, 1982.

The amendment revises the Technical Specifications pertaining to borated water system, the refueling water tank, and the spray additive system to bring these specifications into agreement with those for Salem Unit 2 and with the requirements of NRC/IE Bulletin 77-04.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

ORIGINAL SIGNED

William J. Ross, Project Manager
 Operating Reactors Branch #1
 Division of Licensing

Enclosures:

1. Amendment No. 50 to DPR-70
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:

See next page

**F.R. NOTICE
 &
 AMENDMENT**

OFFICE	ORB#1:DL	ORB#1:DL	ORB#1V:DL	AD/OR:DL	OELD	
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PUBLIC SERVICE ELECTRIC AND 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. 50
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Public Service Electric and Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated October 5, 1982 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;
 - 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.

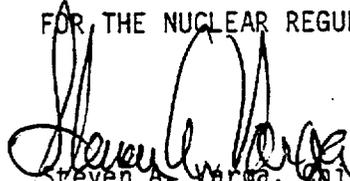
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-70 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 50, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Yarga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 27, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 50

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 1-16

3/4 5-9

3/4 6-10

Insert Pages

3/4 1-16

3/4 5-9

3/4 6-10

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 Each of the following borated water sources shall be OPERABLE:

- a. A boric acid storage system and associated heat tracing with:
 - 1. A minimum contained volume of 5106 gallons,
 - 2. Between 20,100 and 21,800 ppm of boron, and
 - 3. A minimum solution temperature of 145°F.
- b. The refueling water storage tank with:
 - 1. A contained volume of between 364,000 and 400,000 gallons of water,
 - 2. A boron concentration of between 2000 and 2200 ppm, and
 - 3. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With the boric acid storage system inoperable, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F; restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.
- b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 Each borated water source shall be demonstrated OPERABLE:

EMERGENCY CORE COOLING SYSTEMS

REFUELING WATER STORAGE TANK

LIMITING CONDITION FOR OPERATION

3.5.5 The refueling water storage tank (RWST) shall be OPERABLE with:

- a. A contained volume of between 364,000 and 400,000 of borated water.
- b. A boron concentration of between 2000 and 2000 ppm, and
- c. A minimum water temperature of 35°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the refueling water storage tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.5 The RWST shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 1. Verifying the water level in the tank, and
 2. Verifying the boron concentration of the water.
- b. At least once per 24 hours by verifying the RWST temperature when the outside air temperature is < 35°F.

CONTAINMENT SYSTEMS

SPRAY ADDITIVE SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.2 The spray additive system shall be OPERABLE with:

- ka. A spray additive tank containing a volume of between 2568 and 4000 gallons of between 30 and 32 percent by weight NaOH solution, and
- b. Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a containment spray system pump flow.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the spray additive system inoperable, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the spray additive system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 The spray additive system shall be demonstrated OPERABLE:

- a. At least once per 31 days also by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 6 months by:
 1. Verifying the solution level in the tank, and
 2. Verifying the concentration of the NaOH solution by chemical analysis.
- c. At least once-per 18 months during shutdown, by verifying that each automatic valve in the flow path actuates to its correct position on a Containment High-High pressure test signal.
- d. At least once per 5 years by verifying a NaOH solution flow rate of 12 ± 3 gpm from the spray additive tank through sample valve 1CS61 with the spray additive tank at 2.5 ± 0.5 psig.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC AND GAS COMPANY,
PHILADELPHIA ELECTRIC COMPANY,
DELMARVA POWER AND LIGHT COMPANY, AND
ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-272

Introduction

By letter dated October 5, 1982, Public Service Electric and Gas Company (the licensee) requested that changes be made in Technical Specifications related to the use of borated and caustic solutions during a LOCA. The proposed changes would bring the Technical Specifications for Salem Unit No. 1 into agreement with those for Unit No. 2 and with the results of analyses performed to satisfy the conditions of NRR/IE Bulletin 77-04 "Post-LOCA Containment Sump."

Background

The proposed changes pertain to the following Technical Specifications:

- a. Section 3.1.2.8 Borated Water Sources - Operating and
Section 3.3.5 Refueling Water Storage Tank

The Salem Unit 1 refueling water storage tank should contain between 364,500 and 400,000 gallons of water with a boron concentration of between 2000 and 2200 ppm instead of the present minimum contained volume of 350,000 gallons of water and a minimum boron concentration of 2000 ppm.

- b. Section 3.6.2.2 Spray Additive System

The Salem Unit 1 spray additive system shall be operable with a spray additive tank containing between 2568 and 4000 gallons of between 30 and 32 percent by weight NaOH solution instead of a spray additive tank containing at least 2000 gallons of not less than 30 percent by weight NaOH solution.

These changes are proposed by the licensee to make the Salem Unit 1 Technical Specifications the same as those approved for Unit 2. Concurrently, an increase in NaOH concentration and boric acid volume to maintain the same ratio of boric acid and NaOH so that the sump pH will be kept ≈ 7.0 is also proposed.

This review is related to providing and maintaining the proper pH of the containment sump water following a design basis accident to reduce the likelihood of stress corrosion cracking of austenitic stainless steel components.

During the containment spray injection phase, the licensee proposes to educt 30-32 weight percent sodium hydroxide into the containment spray solution which is supplied from the refueling water storage tank containing boric acid at a concentration of 2000 to 2200 ppm boron.

During the containment spray recirculation phase, a final pH of at least 7.0 will be achieved in the sump once the borated water has thoroughly mixed with the educted sodium hydroxide.

Evaluation

The post-accident cooling water chemistry has been reviewed in accordance with Section 6.1.1 of the Standard Review Plan (NUREG-0800, Revision 2).

The licensee proposes to increase the volume and concentration of sodium hydroxide in the spray additive tank and of boric acid in the refueling storage tank. The increase in boric acid and sodium hydroxide is such that the ratio of acid to base is maintained equivalent, therefore, the pH will remain > 7 after thorough mixing of the containment spray solution and containment sump water in the event of a LOCA.

We evaluated the pH of the containment sump water following mixing in the containment sump with the educted sodium hydroxide. We verified by independent calculations that 2568-4000 gallons of 30 weight percent sodium hydroxide when mixed with 364,500-400,000 gallons of boric acid at 2000-2200 ppm will raise the containment sump water pH to greater than 7.

These calculated values for Salem Unit 1 boron concentration and volume in the refueling water storage tank, and for the sodium hydroxide concentration and contained volume for the spray additive tank are identical to the Salem Unit 2 values. The resulting volume consistent with the minimum pH of 7.0 required by BTP-MTEB 6-1 of SRP 6.1.1, to reduce the probability of stress-corrosion cracking of austenitic stainless steel components.

Summary

The proposed changes to the Salem Unit 1 Technical Specifications, concerning concentration and volumes of sodium hydroxide and boric acid in the spray additive tank and refueling water storage tank respectively, are acceptable. On the basis of our evaluation, we conclude that the post accident emergency cooling water chemistry meets the minimum pH acceptance criterion of Standard Review Plan Section 6.1.1, the positions of Branch Technical Position MTEB 6-1, and the requirements of General Design Criterion 14 of Appendix A to 10 CFR Part 50.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: December 27, 1982

Principal Contributors:

F. Witt, CMEB
W. Ross, ORB #1

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-272

PUBLIC SERVICE ELECTRIC AND GAS COMPANY,
PHILADELPHIA ELECTRIC COMPANY,
DELMARVA POWER AND LIGHT COMPANY, AND
ATLANTIC CITY ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 50 to Facility Operating License No. DPR-70, issued to Public Service Electric and Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees), which revised Technical Specifications for operation of the Salem Nuclear Generating Station, Unit No. 1 (the facility) located in Salem County, New Jersey. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications pertaining to borated water systems, the refueling water tank, and the spray additive system to bring these specifications into agreement with those for Salem Unit 2 and with the requirements of NRC/IE Bulletin 77-04.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

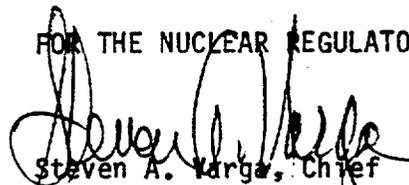
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The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated October 5, 1982, (2) Amendment No. 50 to License No. DPR-70, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Salem Free Public Library, 112 West Broadway, Salem, New Jersey. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 27 day of December, 1982.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Yarga, Chief
Operating Reactors Branch #1
Division of Licensing