January 29, 1998

Mr. Harold W. Keiser
Executive Vice President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NO. 1 (TAC NO. MA0252)

Dear Mr. Eliason:

The Commission has issued the enclosed Amendment No. 206 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 (TSs) in response to your application dated

This amendment provides a one-time change to the Technical Specifications to allow purging of the containment during Modes 3 (Hot Standy) and 4 (Hot Shutdown) upon the return to power from the current refueling outage (1R13).

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/
Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-272

Enclosures: 1. Amendment No. 206 to
License No. DPR-70
2. Safety Evaluation

cc w/encls: See next page

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

January 29, 1998

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cc w/encls: See next page

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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. 206
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 December 11, 1997, 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.

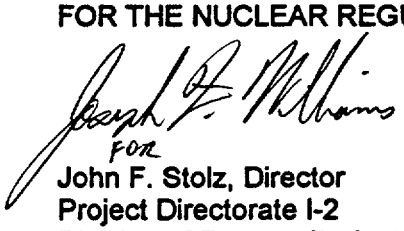
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-70 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 206 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 seven days.

FOR THE NUCLEAR REGULATORY COMMISSION



FOR
John F. Stolz, 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: January 29, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 206

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 6-1	3/4 6-1
3/4 6-2	3/4 6-2
3/4 6-8a	3/4 6-8a

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4. * *

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY 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

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are opened under administrative control as permitted by Specification 3.6.3.1., and

2. All equipment hatches are closed and sealed.

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

---

*Except vents, drains, test connections, etc. which are (1) one inch nominal pipe diameter or less, (2) located inside the containment, and (3) locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed at least once per 92 days.

* * A one-time change is granted to have the containment purge supply and/or exhaust isolation valves open in Modes 3 and 4 following the steam generator replacement outage (1R13). The cumulative time for having the valves open in Modes 3 and 4 is limited to fourteen (14) days. Each valve will be immobilized in the shut position prior to initial entry into Mode 2. The one-time exemption expires with initial entry into Mode 2 following 1R13.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of ≤ La, 0.10 percent by weight of the containment air per 24 hours at design pressure, (47.0 psig).

b. A combined leakage rate of ≤ 0.60 La for all penetrations and valves subject to Type B and C tests, when pressurized to Pa.

APPLICABILITY: MODES 1, 2, 3 and 4. * *

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding 0.75 La, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 La, restore the leakage rate(s) to within the limit(s) prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated as follows:

a. Type A tests shall be in accordance with 10CFR 50.54 (0) in conformance with Appendix J of 10CFR 50, Option B, using the methods and provisions of Regulatory Guide 1.163, September 1995 as modified by approved exemptions.

b. Type B and C tests shall be conducted in conformance with Appendix J of 10CFR 50, Option A, with gas at design pressure (47.0 psig) at intervals no greater than 24 months except for tests involving air locks.

c. Air locks shall be tested and demonstrated OPERABLE in conformance with Appendix J of 10CFR 50, Option A, per surveillance Requirement 4.6.1.3.

* * A one-time change is granted to have the containment purge supply and/or exhaust isolation valves open in Modes 3 and 4 following the steam generator replacement outage (1R13). The cumulative time for having the valves open in Modes 3 and 4 is limited to fourteen (14) days. Each valve will be immobilized in the shut position prior to initial entry into Mode 2. The one-time exemption expires with initial entry into Mode 2 following 1R13.

CONTAINMENT SYSTEMS

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 The containment purge supply and exhaust isolation valves* shall be closed. (Valves immobilized in shut position with control air to valve operators isolated and tagged out of service).

APPLICABILITY: MODES 1, 2, 3, and 4. * *

ACTION:

With one containment purge supply and/or exhaust isolation valve open, close the open valve(s) 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

4.6.1.7 The containment purge supply and exhaust isolation valves shall be determined closed at least once per 31 days.

* * A one-time change is granted to have the containment purge supply and/or exhaust isolation valves open in Modes 3 and 4 following the steam generator replacement outage (1R13). The cumulative time for having the valves open in Modes 3 and 4 is limited to fourteen (14) days. Each valve will be immobilized in the shut position prior to initial entry into Mode 2. The one-time exemption expires with initial entry into Mode 2 following 1R13.

*The containment pressure-vacuum relief isolation valves may be opened on an intermittent basis, under administrative control, as necessary to satisfy the requirement of Specification 3.6.1.4.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 206 TO FACILITY OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-272

1.0 INTRODUCTION

By letter dated December 11, 1997, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit No. 1, Technical Specifications (TSs). The requested changes would provide a one-time change to the TSs to allow purging of the containment during Modes 3 (Hot Standy) and 4 (Hot Shutdown) upon the return to power from the current refueling outage (1R13). The one-time amendment expires with initial entry into Mode 2 following outage 1R13. The purpose of the request is to provide for the safety of the workers that require access to the containment following start-up with the new steam generators. Hazardous gasses are likely to be produced during heat-up of the newly installed steam generators. Purging of the containment is planned to reduce the concentration of these gasses.

2.0 EVALUATION

The licensee provided calculations of the expected radiation doses that would be received by individuals off-site and in the control room if a loss of coolant accident (LOCA) were to occur with the purge valves open. The results of these calculations indicate the requirements of Part 100 of Title 10 of the Code of Federal Regulations (10 CFR Part 100) and General Design Criterion (GDC) 19 in Appendix A to 10 CFR Part 50 would be met during this postulated accident. For these calculations, it was assumed that two thirds of the reactor core had been operated at power then decayed for a minimum of 2.5 years (912 days) due to the extended shutdown. The other one third would be new un-irradiated fuel, contributing no fission products to the source term. Due to the uncertainty of how well the purge isolation valves would seal against the containment pressure expected during a LOCA, no credit was taken for containment isolation. Therefore, the release was modeled as a puff release from an open containment. No credit was taken in the analysis for fission product removal by the containment spray system. However, credit was taken for plate-out of 50% of the iodines released into containment, consistent with the guidance in Regulatory Guide 1.4, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors," dated June 1974.

The NRC staff reviewed the licensee's models and assumptions and performed an independent analysis of the expected off-site and control room doses resulting from the postulated LOCA. Using the assumptions stated above and input parameters taken from the current licensing basis, whole body and thyroid doses for the maximum exposed individuals at the Exclusion Area Boundary (EAB) and the Low Population Zone (LPZ) were calculated using the HABIT computer code. The whole body, thyroid and skin doses for operators in the control room were also calculated using the HABIT code. Current design basis parameters used in the staff's analysis were taken from Table 1 of the staff's Safety Evaluation supporting the February 6, 1997, amendment to the Salem Control Room Ventilation Specifications. No credit was assumed for the operation of any of the control room habitability systems.

Table 1 lists the results of the staff's analysis of the off-site and control room doses resulting from the postulated LOCA along with the applicable acceptance criteria from NUREG 0800; "Standard Review Plan" (SRP).

Table 1

Radiological Consequences of LOCA While Purging Following a Steam Generator Replacement Outage For Salem Unit 1

	Dose (Rem)	Acceptance Criteria
Exclusion Area Boundary (2 Hour):		
Whole Body	.088	25
Thyroid	.006	300
Low Population Zone (30 Days):		
Whole Body	.008	25
Thyroid	.005	300
Control Room (30 Days):		
Whole Body	.63	5
Thyroid	<.001	30
Skin	70	30(75*)

* 75 rem applicable with eye protection provided.

The licensee has committed to provide glasses to the control room operators to shield their eyes from beta radiation in the unlikely event of a LOCA occurring with the purge valves open. The staff concludes that the licensee has demonstrated that the design, as modified, meets the SRP acceptance criteria for the maximum radiation dose to control room operator and members of the public during a LOCA. Therefore, the Technical Specification relaxation as proposed is 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 amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (62 FR 66397). Accordingly, the amendment meets 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 amendment.

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Roger L. Pedersen

Date: January 29, 1998