



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

November 20, 1992

Docket No. 50-272

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: VITAL INSTRUMENT BUS INVERTERS, TECHNICAL SPECIFICATIONS, SALEM  
NUCLEAR GENERATING STATION, UNIT 1 (TAC NO. M84419)

The Commission has issued the enclosed Amendment No. 137 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 (TS) in response to your application dated August 14, 1992.

This amendment revises the TS for the operation of the vital instrument bus inverters at Salem, Unit 1 to make them identical to the TS currently in place for Salem, Unit 2.

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 amendment has been implemented at Salem, Unit 1.

Sincerely,

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. 137 to License No. DPR-70
2. Safety Evaluation

cc w/enclosures:  
See next page

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Mr. Steven E. Miltenberger  
Public Service Electric & Gas  
Company

Salem Nuclear Generating Station,  
Units 1 and 2

cc:

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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. 137  
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 August 14, 1992, 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. 137, 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

*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: November 20, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 137

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 8-6

3/4 8-7

Insert Pages

3/4 8-6

3/4 8-7

## ELECTRICAL POWER SYSTEMS

### 3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

#### A.C. DISTRIBUTION - OPERATING

##### LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A. C. electrical busses shall be OPERABLE and energized from sources of power other than the diesel generators:

4 kvolt	Vital Bus # 1A
4 kvolt	Vital Bus # 1B
4 kvolt	Vital Bus # 1C
460 volt	Vital Bus # 1A and associated control centers
460 volt	Vital Bus # 1B and associated control centers
460 volt	Vital Bus # 1C and associated control centers
230 volt	Vital Bus # 1A and associated control centers
230 volt	Vital Bus # 1B and associated control centers
230 volt	Vital Bus # 1C and associated control centers
115 volt	Vital Instrument Bus # 1A and Inverter
115 volt	Vital Instrument Bus # 1B and Inverter
115 volt	Vital Instrument Bus # 1C and Inverter

APPLICABILITY: MODES 1, 2, 3 and 4.

##### ACTION:

- With less than the above complement of A.C. busses OPERABLE or energized, restore the inoperable bus to OPERABLE and energized status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- With one inverter inoperable, energize the associated A. C. Vital Bus within 8 hours; restore the inoperable inverter to OPERABLE and energized status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. busses shall be determined OPERABLE and energized from A.C. sources other than the diesel generators at least once per 7 days by verifying correct breaker alignment and indicated power availability.

## ELECTRICAL POWER SYSTEMS

### A.C. DISTRIBUTION - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

=====

3.8.2.2 As a minimum, two A.C. electrical bus trains shall be OPERABLE and energized from sources of power other than a diesel generator but aligned to an OPERABLE diesel generator with each train consisting of:

- 1 - 4 kvolt Vital Bus
- 1 - 460 volt Vital Bus and associated control centers
- 1 - 230 volt Vital Bus and associated control centers
- 1 - 115 volt Instrument Bus energized from its respective inverter connected to its respective D. C. bus train.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With less than the above complement of A.C. busses OPERABLE and energized, establish CONTAINMENT INTEGRITY within 8 hours.

#### SURVEILLANCE REQUIREMENTS

=====

4.8.2.2 The specified A.C. busses shall be determined OPERABLE and energized from A.C. sources other than the diesel generators at least once per 7 days by verifying correct breaker alignment and indicated power availability.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 137 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 August 14, 1992, the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) submitted a request for changes to the Salem Nuclear Generating Station, Unit No. 1, Technical Specifications (TS). The requested changes would revise TS 3.8.2.1, "A.C. Distribution - Operating" by:

- a. adding a separate Action Statement for an inoperable inverter that would require the inoperable inverter to be restored to operable within 24 hours, or the unit would be shutdown, provided the associated bus is energized, and
- b. revising the existing Action Statement to be consistent with the Limiting Condition for Operation (LCO), as follows: "a. With less than the above complement of A.C. busses OPERABLE or energized, restore the inoperable bus to OPERABLE and energized status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." (The underlined sections would be added.)

Also, TS 3.8.2.2, "A.C. Distribution - Shutdown" would be revised by adding "energized from its respective inverter connected to its respective D.C. bus train" to the LCO for the 115 volt Instrument Bus.

**2.0 EVALUATION**

The proposed changes would make the Unit 1 LCO's and Action Statements for the Unit 1 inverters identical to those for Unit 2.



The existing Action Statement of TS 3.8.2.1, "A.C. DISTRIBUTION - OPERATING" would be lettered "a" with the clarification added that the bus must be "OPERABLE and energized" within 8 hours or the unit would be shut down. This change clarifies the Action Statement to be consistent with the LCO which requires the busses to be operable and energized.

A new Action Statement (b) would be added to TS 3.8.2.1 that would define an allowed outage time (AOT) for inverters to be inoperable, as follows:

With the inverter inoperable and the bus energized, 24 hours would be allowed to restore the inverter to OPERABLE status. However, if the associated bus was deenergized, the bus would have to be reenergized within 8 hours and the inverter returned to OPERABLE status within 24 hours total. If the bus could not be reenergized within 8 hours or the inverter returned to OPERABLE status within 24 hours, the plant would be brought to HOT STANDBY within the next 6 hours and to COLD SHUTDOWN within the following 30 hours.

The vital instrument bus can be energized through a constant voltage transformer in the event the inverter is not available. Allowing 24 hours to restore the inverter to OPERABLE status does not incur an unacceptable risk of losing the vital instrument bus following a loss of offsite power. Also, the addition of a 24-hour allowed outage time for the inverters is consistent with revision 4 of the Westinghouse Standard TS and the current Salem Unit 2 TS. The AOT for the complete loss of a bus is not changed.

The Limiting Condition for Operation (LCO) for the 115 volt Instrument Bus in TS 3.8.2.2, "A.C. DISTRIBUTION - SHUTDOWN" would be revised as follows: "1 - 115 volt Instrument Bus energized from its respective inverter connected to its respective D.C. bus train". (The underlined section would be added.)

This change clarifies the source of power for the 115 volt instrument bus and is consistent with the current Salem Unit 2 TS.

The staff finds the proposed changes to be acceptable.

### 3.0 STATE CONSULTATION

In accordance with the Commission regulations, the New Jersey State official was notified on October 8, 1992, of the proposed issuance of the amendment. The State official had no comments on the proposed no significant hazards determination.

However, by letter dated October 19, 1992, the State of New Jersey forwarded a technical comment on the proposed change that stated "The proposed change adds an action statement to Technical Specification 3.8.2.2 for inoperable inverters. However, no surveillance requirement related to inverters exists and none is proposed to be added. The proposed change requires certain actions if inverters are inoperable. A surveillance requirement is needed so that the frequency and method of verifying inverter operability is specified. Note that the corresponding Salem Unit 2 technical specification has a surveillance requirement for inverters."

Generic Letter 91-11, "Resolution of Generic Issues 48, "LCOs for Class 1E Vital Instrument Buses," and 49, "Interlocks and LCOs for Class 1E Tie Breakers" Pursuant to 10 CFR 50.54(f) (GL 91-11)," requested licensees to, among other things, certify that plant procedures include surveillance requirements for inverters or other onsite power sources to the vital instrument buses. By letters dated January 31, 1992, August 14, 1992, and October 28, 1992, Public Service Electric and Gas Company made such a certification or committed to have the requested surveillance requirements for all inverters in place by December 1992. Because this is in compliance with the requests contained in GL 91-11, the staff finds this acceptable. In a phone conversation on November 10, 1992, between the NRC staff and the State of New Jersey representative, the State of New Jersey representative stated that the inclusion of a specific statement in the technical specification for surveillance requirements for inverters at Salem 1 was not required and their comment was considered resolved.

#### 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 (57 FR 45086). 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: J. Stone

Date: November 20, 1992

November 20, 1992

Docket No. 50-272

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: VITAL INSTRUMENT BUS INVERTERS, TECHNICAL SPECIFICATIONS, SALEM  
NUCLEAR GENERATING STATION, UNIT 1 (TAC NO. M84419)

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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 amendment has been implemented at Salem, Unit 1.

Sincerely,

/s/

James C. Stone, Senior Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

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2. Safety Evaluation

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