

October 11, 2002

Mr. Harold W. Keiser
Chief Nuclear Officer & President
PSEG Nuclear LLC - X04
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2, ISSUANCE
OF AMENDMENT RE: CHANGE TO TECHNICAL SPECIFICATIONS -
NORMAL AND EMERGENCY POWER (TAC NOS. MB3453 AND MB3454)

Dear Mr. Keiser:

The Commission has issued the enclosed Amendment Nos. 253 and 234 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 November 1, 2001, as supplemented on October 1, 2002.

These amendments modify the provisions under which equipment may be considered operable when either its normal or emergency power source is inoperable. TS Section 3.0.5 was deleted and additional limiting conditions for operation were incorporated into electrical power systems TS 3.8.1.1, "A.C. Sources - Operating." The corresponding TS Bases were modified accordingly. The proposed changes are consistent with the recommendations contained in NUREG-1431, Rev. 2, "Standard Technical Specifications for Westinghouse Plants."

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

Robert J. Fretz, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Enclosures: 1. Amendment No. 253 to
License No. DPR-70
2. Amendment No. 234 to
License No. DPR-75
3. Safety Evaluation

cc w/encls: See next page

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ACCESSION NUMBER: ML022390335

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Salem Nuclear Generating Station,
Unit Nos. 1 and 2

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PSEG NUCLEAR LLC

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.253
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 PSEG Nuclear LLC and Exelon Generation Company, LLC (the licensees) dated November 1, 2001, as supplemented on October 1, 2002, 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. 253, 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Andersen, Acting Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 11, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 253

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

XIV
3/4 0-2
3/4 8-1
3/4 8-2

B 3/4 0-4
B 3/4 0-4a
B 3/4 8-1
B 3/4 8-1a

B 3/4 8-3
B 3/4 8-4

Insert Pages

XIV
3/4 0-2
3/4 8-1
3/4 8-2
3/4 8-2a
3/4 8-2b
B 3/4 0-4
B 3/4 0-4a
B 3/4 8-1

B 3/4 8-2
B 3/4 8-3
B 3/4 8-4

PSEG NUCLEAR LLC

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 234
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 PSEG Nuclear LLC and Exelon Generation Company, LLC (the licensees) dated November 1, 2001, as supplemented on October 1, 2002, 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. 234 , 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 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Andersen, Acting Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: October 11, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 234

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

XIV
3/4 0-2
3/4 8-1
3/4 8-2

B 3/4 0-4
B 3/4 0-4a
B 3/4 8-1
B 3/4 8-1a

B 3/4 8-3
B 3/4 8-4

Insert Pages

XIV
3/4 0-2
3/4 8-1
3/4 8-2
3/4 8-2a
3/4 8-2b
B 3/4 0-4
B 3/4 0-4a
B 3/4 8-1

B 3/4 8-2
B 3/4 8-3
B 3/4 8-4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 253 AND 234 TO FACILITY OPERATING
LICENSE NOS. DPR-70 AND DPR-75
PSEG NUCLEAR LLC
EXELON GENERATION COMPANY, LLC
SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated November 1, 2001, as supplemented on October 1, 2002, PSEG Nuclear LLC (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2 (Salem), Technical Specifications (TSs). The requested changes would modify the provisions under which equipment may be considered operable when either its normal or emergency power source is inoperable. TS Section 3.0.5 was deleted and additional limiting conditions for operation (LCOs) were incorporated into electrical power systems TS 3.8.1.1, "A.C. Sources - Operating." The corresponding TS Bases were modified accordingly. The proposed changes are consistent with the recommendations contained in NUREG-1431, Rev. 2, "Standard Technical Specifications for Westinghouse Plants." The October 1, 2002, supplement was within the scope of the original application and did not change the staff's no significant hazards consideration determination.

2.0 BACKGROUND

The licensee proposed to delete the current Salem TS 3.0.5, LCO, and modify TS 3.8.1.1, Electrical Power Systems - A.C. Source - Operating, as indicated below. The corresponding Bases will be modified accordingly. The proposed phrases to be changed or added are shown in bold.

2.1 Proposed Change to TS 3.0.5

This specification is being deleted.

2.2 Proposed Changes to Sections a, b, and d of TS 3.8.1.1

- a. With an independent A.C. circuit of the above required A.C. electrical power sources inoperable:

1. Demonstrate the OPERABILITY of the remaining independent A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; **and**
 2. **Within 24 hours, declare required systems or components with no offsite power available inoperable when a redundant required system or component is inoperable, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and**
 3. Restore the inoperable independent A.C. circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one diesel generator of the above required A.C. electrical power sources inoperable:
1. Demonstrate the OPERABILITY of the independent A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours **thereafter; and**
 2. **Within 4 hours, declare required systems or components supported by the inoperable diesel generator inoperable when a required redundant system or component is inoperable, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and**
 3. Determine the two remaining OPERABLE diesel generators are not inoperable due to common cause failure or perform Surveillance Requirement 4.8.1.1.2.a.2 within 24 hours. If the diesel generator is inoperable for preventive maintenance, the two remaining OPERABLE diesel generators need not be tested nor the OPERABILITY evaluated; **and**
 4. In any case, restore the inoperable diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With two of the above independent A.C. circuits inoperable:
1. Demonstrate the OPERABILITY of three diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.2 within 8 hours, unless the diesel generators are already operating; **and**
 2. **Within 12 hours, declare required systems or components supported by the inoperable offsite circuits inoperable when a required redundant system or component is inoperable, or be in at**

least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

3. Restore at least one of the inoperable independent A.C. circuits to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours; **and**
4. With only one of the independent A.C. circuits OPERABLE, restore the other independent A.C. circuit to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

3.0 REGULATORY EVALUATION

General Design Criterion (GDC)-17, "Electric Power System," of Appendix A, "General Design Criterion for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 requires, in part, that nuclear power plants have an onsite and offsite electric power system to permit the functioning of structures, systems, and components important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure, and the offsite system is required to be supplied by two independent circuits. In addition, this criteria requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as the result of loss of power from the unit, the offsite transmission network, or the onsite power supplies. GDC-18, "Inspection and Testing of Electric Power System," requires that electric power systems important to safety be designed to permit appropriate periodic inspection and testing.

From the Final Safety Analysis Report, the licensee provided the following configuration for the electrical power supply system for Salem. The 4160-V system at Salem is divided into four group bus sections, three vital bus sections, and two circulating water bus sections. The vital buses are fed directly from 13-kv to 4-kV station power transformers T13, T14 (Unit 1) and T23, T24 (Unit 2). During normal operation, two of the vital buses are supplied from one station power transformer and the third from the other station power transformer. The tie breakers between these sections are normally open. The in-feed breakers on each vital bus from the two station power transformers are electrically interlocked to prevent paralleling both sources through a vital bus. These in-feed breakers provide a means for transferring power between sources in the event of an interruption of power from one source. In the event the normal source to a 4-kV bus becomes unavailable, that bus is automatically transferred to its alternate source. In the event all offsite power is lost, the standby diesel generators automatically start and the normal in-feed breakers to each 4-kV vital bus are opened. When the diesel generator is up to speed and voltage, its generator breaker is closed to energize that 4-kV bus. An interlock from the diesel generator breaker prevents closure of either in-feed breaker to that bus, thereby preventing any interconnection between redundant 4-kV buses.

4.0 TECHNICAL EVALUATION

4.1 Proposed Change to TS 3.0.5

TS 3.0.5 delineates what additional conditions must be satisfied to permit plant operation to continue when an individual system or equipment would otherwise be considered inoperable because its normal or emergency power source is not operable. This specification permits continued operation provided that no portion of the redundant system in another division is inoperable for any reason. The provisions of this specification permit the action statements associated with individual systems, subsystems, trains, components, or devices to be consistent with action statements of the associated electrical power source. It is intended to allow operation to be governed by the time limits of the action statement associated with the LCO of the normal or emergency power source, rather than the corresponding action statement for each affected system or component. The initial time frame for determining that the conditions of TS 3.0.5 are satisfied is 2 hours, otherwise shutdown to hot standby must commence within 6 hours.

The proposed deletion of TS 3.0.5 and revision to TS 3.8.1.1 extends the allowable action time for complying the specified conditions beyond the current 2 hours for the following initiating events: a single emergency diesel generator (EDG) inoperable, a single inoperable offsite power circuit, and two inoperable offsite power circuits. This change is consistent with NUREG-1431, Revision 2, "Standard Technical Specifications for Westinghouse Plants," continues to maintain plant safety, and therefore, is acceptable.

4.2 Proposed Change to TS 3.8.1.1

The proposed changes are consistent with Westinghouse Standard Technical Specification (STS), 3.8.1, "AC Sources - Operating," in NUREG-1431. STS initiates action (within 4, 24, or 12 hours, respectively, for loss of a single EDG, a single offsite circuit or two offsite circuits) upon discovery of no offsite power or diesel inoperability concurrent with inoperability of the required redundant systems or components. Further, action required by STS is to declare inoperable the required systems or components with no normal or emergency power available, when a redundant system or component is also inoperable.

The licensee stated that the proposed change will avoid overly restrictive actions that could entail unnecessary shut down of the plant. Under present TS requirements, operators only have 2 hours following inoperability of a normal or emergency power source to verify that systems and equipment supported by that power supply are operable, along with their redundant system and equipment. Should this condition not be satisfied, the plant must be placed in hot standby within the next 6 hours, hot shutdown in the following 6 hours, and cold shutdown in the next 24 hours. This is more restrictive than the stated purpose of the current TSs, which is to allow the associated electrical system's action statement to govern required time frames. The existing requirements place an undue burden on plant operators and subjects the plant to shutdown transient, with no corresponding increase in safety.

The proposed change will provide significantly greater flexibility in completing the required actions. Operators have up to 24 hours from discovery of no offsite power to one train, concurrent with inoperability of redundant required system or components, to declare the supported equipment inoperable. For loss of power from two offsite circuits, that time frame is

reduced to 12 hours, and to 4 hours for the loss of emergency power from an EDG. Declaring the supported equipment inoperable, initiates a new action under the LCO for that equipment, during which operators have an additional opportunity to restore the affected equipment to operable status before commencing a plant shutdown. This is intended to allow the operator adequate time for evaluation and repair. Further, the proposed changes also provide the normal time for initiating the allowed outage time clock. This time clock only begins upon discovery of no normal or emergency power to a train, concurrent with a required system or component on the other train becoming inoperable. Based on the above review, the Nuclear Regulatory Commission (NRC) staff finds the proposed change to TS 3.8.1.1 is consistent with NUREG-1431, Revision 2, continues to maintain plant safety, and therefore is acceptable.

The NRC staff concludes that the proposed change will avoid overly restrictive actions that could entail the unnecessary shutdown of the plant. The existing TS requirements place an undue burden on plant operators and subjects the plant to a shutdown transient, with no corresponding increase in safety. The staff also concludes that the proposed change does not affect Salem's compliance with the requirements of GDC-17 and 18 and is consistent with NUREG-1431, Revision 2. Further, Salem continues to meet the requirements of GDC-17 and 10 CFR 50.36, therefore, the change is acceptable.

4.3 Administrative Changes

The licensee also proposes to make two administrative changes. Section 3/4.8.3 page location on Index page XIV was changed from page B3/4 8-3 to B3/4 8-4 to reflect the added text for Sections 3/4.8.1 and 3/4.8.2. This change in page location for Section 3/4.8.3 on Index page XIV is administrative in nature, and therefore is acceptable.

The second administrative change reflects the addition of page 3/4 8-2b which states, "THIS PAGE INTENTIONALLY LEFT BLANK." This change accommodates insertion into hardcopy binders the added text of TS 3.8.1.1 on page 3/4 8-2a without affecting subsequent pagination. Because this change is administrative in nature this change is acceptable.

5.0 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.

6.0 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. 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 (67 FR 5331). 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.

7.0 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 Contributors: D. Nguyen
N. Le

Date: October 11, 2002