

October 13, 2006

Mr. William Levis
Senior Vice President & Chief Nuclear Officer
PSEG Nuclear LLC - N09
Post Office Box 236
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SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2, ISSUANCE
OF AMENDMENTS RE: REFUELING OPERATIONS AND SPECIAL TEST
EXCEPTIONS (TAC NOS. MC9337 AND MC9338)

Dear Mr. Levis:

The Commission has issued the enclosed Amendment Nos. 275 and 257 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2, respectively. These amendments consist of changes to the Technical Specifications in response to the PSEG Nuclear LLC application dated December 7, 2005, as supplemented by letters dated July 20 and September 5, 2006. The amendments delete the surveillance requirements to perform a channel functional test of the source range neutron flux monitor within 8 hours prior to the initial start of core alterations. These amendments also eliminate the "within 12 hours" restriction for performing channel functional tests on the power range and intermediate range nuclear monitors prior to initiating physics tests or low flow tests.

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/

Stewart N. Bailey, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Enclosures:

1. Amendment No. 275 to License No. DPR-70
2. Amendment No. 257 to License No. DPR-75
3. Safety Evaluation

cc w/encls: See next page

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SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2, ISSUANCE OF AMENDMENTS RE: REFUELING OPERATIONS AND SPECIAL TEST EXCEPTIONS (TAC NOS. MC9337 AND MC9338)

Dear Mr. Levis:

The Commission has issued the enclosed Amendment Nos. 275 and 257 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2, respectively. These amendments consist of changes to the Technical Specifications in response to the PSEG Nuclear LLC application dated December 7, 2005, as supplemented by letters dated July 20 and September 5, 2006. The amendments delete the surveillance requirements to perform a channel functional test of the source range neutron flux monitor within 8 hours prior to the initial start of core alterations. These amendments also eliminate the "within 12 hours" restriction for performing channel functional tests on the power range and intermediate range nuclear monitors prior to initiating physics tests or low flow tests.

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PUBLIC	LPL1-2 R/F	RidsNrrPMSBailey	RidsNrrLACRaynor
RidsNrrDorlLpl1-2	RidsOgcRp	RidsAcrsAcnwMailCenter	
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Package Accession Number: **ML062690463**

Amendment Accession Number: **ML062690480**

TS(s) Accession Number: **ML062900271**

OFFICE	LPL1-2/PM	LPL1-2/LA	ITSB/BC	OGC	LPL1-2/BC
NAME	SBailey:OSR	CRaynor	TKobetz	JMartin	HChernoff
DATE	10/13/06	9/29/06	10/4/06	10/13/06	10/13/06

Official Record Copy

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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. 275
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by PSEG Nuclear LLC, acting on behalf of itself and Exelon Generation Company, LLC (the licensees), dated December 7, 2005, as supplemented by letters dated July 20 and September 5, 2006, 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 Title 10 of the *Code of Federal Regulations* (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. 275, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Facility Operating
License No. DPR-70 and Technical
Specifications

Date of Issuance: October 13, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 275

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Replace the following page of Facility Operating License No. DPR-70 with the attached revised page as indicated. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

4

Insert Page

4

Replace the following pages of 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 Page

3/4 9-2

3/4 10-3

3/4 10-4

Insert Page

3/4 9-2

3/4 10-3

3/4 10-4

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. 257
License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by PSEG Nuclear LLC, acting on behalf of itself and Exelon Generation Company, LLC (the licensees), dated December 7, 2005, as supplemented by letters dated July 20 and September 5, 2006, 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 Title 10 of the *Code of Federal Regulations* (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. 257, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Facility Operating
License No. DPR-75 and Technical
Specifications

Date of Issuance: October 13, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 257

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Replace the following page of Facility Operating License No. DPR-75 with the attached revised page as indicated. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove Page

4

Insert Page

4

Replace the following pages of 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 Page

3/4 9-2

3/4 10-4

3/4 10-5

Insert Page

3/4 9-2

3/4 10-4

3/4 10-5

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 275 AND 257 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 December 7, 2005, PSEG Nuclear LLC (PSEG, the licensee) requested a license amendment for the Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2. The amendment would revise the Technical Specifications (TSs) as follows: (1) delete TS Surveillance Requirement (SR) 4.9.2.b, which requires a channel functional test (CFT) of the source range neutron flux monitor within 8 hours prior to initiating core alterations; (2) eliminate the “within 12 hours” restriction from SR 4.10.3.2 for performing a CFT on the intermediate and power range neutron monitors prior to initiating physics tests; and (3) eliminate the “within 12 hours” restriction from SR 4.10.4.2 for performing a CFT on the intermediate range monitors, power range monitors, and P-7 interlock prior to initiating startup or physics tests (no flow tests). These changes were based on Technical Specification Task Force (TSTF) Traveler TSTF-108, “Eliminate the 12 hour Channel Operational Test (COT) on Power Range and Intermediate Range Channels for Physics Test Exceptions,” and NUREG-1431, “Standard Technical Specifications, Westinghouse Plant.”

By letter dated July 20, 2006, PSEG supplemented its application to request additional changes to make the SRs for the nuclear instrumentation better aligned with NUREG-1431, Revision 3. However, after further discussion with the Nuclear Regulatory Commission (NRC, or the Commission) staff, the licensee withdrew the additional changes by letter dated September 5, 2006. The scope of the change is within the scope of the initial proposed no significant hazards consideration determination as published August 2, 2006 (71 FR 43819).

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, “General Design Criteria for Nuclear Power Plants,” Criterion 13, “Instrumentation and control,” states “Instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety...”

Section 50.36(c)(3) of 10 CFR states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

The licensee is proposing to reduce the number of SRs performed on the nuclear instrumentation by eliminating the redundant testing of the source range, intermediate range, and P-7 interlocks required by the TSs for fuel movement and/or special test exceptions. The NRC staff's evaluation of the proposed TS changes was based on continued compliance with General Design Criterion 13, and 10 CFR 50.36.

3.0 TECHNICAL EVALUATION

The purpose of the nuclear instrumentation system (NIS) is to monitor the power level of the reactor. The power range, intermediate range, and source range neutron flux monitors are part of the NIS excore neutron detectors. The source range monitors are used primarily when the reactor is subcritical and during special subcritical modes of operation. The intermediate range detectors measure neutron flux between the source range and the power range extremes. The power range detectors can detect overpower excursions up to 200 percent of rated thermal power. Each range of instrumentation (source, intermediate, and power) provides the necessary overpower reactor trip function required during operation in its respective power range. The overlap of instrument ranges provides continuous protection at all licensed power levels.

The SRs for the source range, intermediate range, and power range channels are addressed, in part, in TS 3/4.3.1, "Reactor Trip System [RTS] Instrumentation," which includes the following:

- For the source range monitors, SR 4.3.1.1.1 requires a CFT every 92 days and prior to each reactor startup, if not performed in the previous 31 days, while the unit is in Modes 2, 3, 4, or 5, or with the RTS breakers closed and the control rod drive system (CRDS) capable of rod withdrawal.
- For the intermediate range monitors, SR 4.3.1.1.1 requires a CFT prior to each reactor startup, if not performed in the previous 31 days, while the unit is in Modes 1 or 2 or with the RTS breakers closed and the CRDS capable of rod withdrawal.
- For the power range monitors, SR 4.3.1.1.1 requires a CFT every 92 days while the unit is in Modes 1, 2, or 3, or with the RTS breakers closed and the CRDS capable of rod withdrawal.
- For the P-7 interlock, SR 4.3.1.1.2 requires the logic to be demonstrated Operable (which encompasses a CFT) prior to each reactor startup, if not performed during the previous 92 days.

Also, SR 4.9.2.a requires a CFT on the source range monitors every 7 days while the unit is in Mode 6.

In addition to the above SRs, the Salem TSs contain SRs that must be performed within a certain time period before specific plant evolutions. The licensee has proposed to delete these evolution-based SRs, or to eliminate the time limits, arguing that the SRs described above are sufficient to demonstrate the operability of the NIS. The licensee has proposed three changes as follows:

1. TS 3/4.9.2, "Refueling Operations, Instrumentation," includes SR 4.9.2.b, which requires a CFT of the source range channels within 8 hours prior to initial start of core alterations in Mode 6. The licensee has proposed to delete this SR on the basis that, since SR 4.9.2.a requires a CFT of the source range channels every 7 days while in Mode 6, a CFT will have been performed on the source range monitors within the previous 7 days prior to the start of core alterations. The licensee stated that the initiation of core alterations does not impact the ability of the source range monitors to perform their required function, does not affect the trip setpoint or RTS capability, and does not invalidate the previous SRs on the source range monitors. Also, since the monitors provide audible indication in the control room, the operators would know if the monitor became inoperable. Therefore, the licensee concludes that the additional SR to perform a CFT 8 hours prior to core alterations is unnecessary.
2. TS 3/4.10.3, "Special Test Exceptions, Physics Tests," includes SR 4.10.3.2, which requires a CFT on each intermediate range and power range channel within 12 hours prior to initiating physics tests in Mode 2. The licensee has proposed to delete the restriction of "within 12 hours." The revised wording will require the CFTs to be performed if they are not current (e.g., have not already been performed in accordance with SR 4.3.1.1.1 on the required frequencies). This means that a CFT on the power range monitors will have been performed within the previous 92 days and a CFT on the intermediate range monitors will have been performed within the previous 31 days of initiating physics tests in Mode 2. The licensee stated that the initiation of physics tests does not impact the ability of the monitors to perform their required function, does not affect the trip setpoints or RTS trip capability, and does not invalidate the previous SRs. Therefore, the licensee concludes that the "within 12 hours" restriction, which can require additional CFTs, is unnecessary.
3. TS 3/4.10.4, "Special Test Exceptions, Low Flow Tests," includes SR 4.10.4.2, which requires a CFT on each intermediate and power range monitor, and on the P-7 interlocks, within 12 hours prior to initiating startup or physics tests during operation below the P-7 interlock setpoint. The licensee has proposed to delete the restriction of "within 12 hours." The revised wording will require the CFTs to be performed if they are not current (e.g., have not already been performed in accordance with SRs 4.3.1.1.1 and 4.3.1.1.2 on the required frequencies). This means that a CFT on the power range monitors will have been performed within the previous 92 days, a CFT on the intermediate range monitors will have been performed within the previous 31 days, and a CFT (or a surveillance that encompasses a CFT) on the P-7 interlock will have been performed within the last 92 days of initiating startup or physics tests during operation below the P-7 interlock. The licensee stated that the initiation of startup does not impact the ability of the monitors to perform their required function, does not affect the trip setpoints or RTS trip capability, and does not invalidate previous SRs. Therefore, the licensee concludes that the "within 12 hours" restriction, which can require additional CFTs, is unnecessary.

The licensee stated that the elimination of the redundant SRs will not diminish the required level of testing for the NIS monitors and interlock. The monitors and interlock will continue to be tested at appropriate frequencies, within the intervals that have been accepted for Salem, Unit Nos. 1 and 2.

On May 2, 1997, the NRC approved TSTF-108, Revision 1, to allow the deletion of the "within 12 hours" prior to the initiation of physics tests for the CFTs required by Standard Technical Specification SR 3.1.10.1 and SR 3.4.19.2. The industry initiated TSTF-108 due to the scheduling difficulties created by the time limit. The NRC staff approved TSTF-108 because, with the proposed TS wording, the SRs would still be required to be performed (e.g., to be current) prior to initiation of physics tests, and the initiation of physics tests does not impact the ability of the monitors to perform their required function, does not affect the trip setpoints or RTS trip capability, and does not invalidate previous SRs. The NRC staff has reviewed PSEG's proposed changes and determined that they meet the intent of TSTF-108, Revision 1.

In summary, the NRC staff has reviewed the licensee's request and determined that the TS SRs are sufficient to demonstrate that the NIS channels will perform their intended functions. The proposed TSs provide an approach that is similar to TSTF-108 and NUREG-1431 in that the SRs will have been performed within the interval that has been accepted for Salem, Unit Nos. 1 and 2, prior to the plant evolutions addressed by the above TSs. The proposed change has no impact on the assumptions of any transient or accident analysis in the Salem Updated Final Safety Analysis Report. Therefore, the NRC staff finds that the proposed changes are acceptable.

4.0 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.

5.0 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 (71 FR 43819). 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.

6.0 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: F. Saba
S. Bailey

Date: October 13, 2006