



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

July 17, 2013

Mr. Thomas Joyce  
President and Chief Nuclear Officer  
PSEG Nuclear  
P.O. Box 236, N09  
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: REVISION TO TECHNICAL SPECIFICATION 3.7.6.1 (UNIT 1) AND 3.7.6 (UNIT 2), "CONTROL ROOM EMERGENCY AIR CONDITIONING SYSTEM" (TAC NOS. ME9095 AND ME9096)

Dear Mr. Joyce:

The Commission has issued the enclosed Amendment Nos. 304 and 286 to Renewed Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2 (Salem). These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 17, 2012, as supplemented by letters dated January 28, 2013, and March 22, 2013.

The amendments revised Salem TS 3.7.6.1 (Unit 1) and 3.7.6 (Unit 2), "Control Room Emergency Air Conditioning System," to eliminate the separate action statements for securing an inoperable Control Area Air Conditioning System and Control Room Emergency Air Conditioning System isolation damper in the closed position and entering the actions for an inoperable control room envelope boundary.

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

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Hughey".

John D. Hughey, 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. 304 to Renewed DPR-70
2. Amendment No. 286 to Renewed DPR-75
3. Safety Evaluation

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

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. 304  
Renewed 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 July 17, 2012, as supplemented by letters dated January 28, 2013, and March 22, 2013, 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 Renewed 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 Appendix A, as revised through Amendment No. 304, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Veronica M. Rodriguez, Acting Chief  
Plant Licensing Branch 1-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License and the Technical Specifications

Date of Issuance: July 17, 2013

ATTACHMENT TO LICENSE AMENDMENT NO. 304

RENEWED FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

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

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Page 3

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

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instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

- (5) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30 and 70, to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PSEG Nuclear LLC is authorized to operate the facility at a steady state reactor core power level not in excess of 3459 megawatts (one hundred percent of rated core power).

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 304, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications, and the Environmental Protection Plan.

(3) Deleted Per Amendment 22, 11-20-79

(4) Less than Four Loop Operation

PSEG Nuclear LLC shall not operate the reactor at power levels above P-7 (as defined in Table 3.3-1 of Specification 3.3.1.1 of Appendix A to this renewed license) with less than four (4) reactor coolant loops in operation until safety analyses for less than four loop operation have been submitted by the licensees and approval for less than four loop operation at power levels above P-7 has been granted by the Commission by Amendment of this renewed license.

- (5) PSEG Nuclear LLC shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety

## PLANT SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

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- d. With one or both series isolation damper(s) on a normal Control Area Air Conditioning System (CAACS) outside air intake or exhaust duct inoperable, close the affected duct within 4 hours by use of at least one isolation damper secured in the closed position or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (Refer to ACTION 25 of Table 3.3-6.)
- e. With one or both isolation damper(s) on an outside emergency air conditioning air intake duct inoperable, close the affected duct within 4 hours by use of at least one isolation damper secured in the closed position and restore the damper(s) to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### MODES 5 and 6 or during movement of irradiated fuel assemblies

- a. With one filtration train inoperable, align CREACS for single filtration train operation within 4 hours, or suspend movement of irradiated fuel assemblies.
- b. With CREACS aligned for single filtration train operation with one of the two remaining fans or associated outlet damper inoperable, restore the fan or damper to OPERABLE status within 72 hours, or suspend movement of irradiated fuel assemblies.
- c. With two filtration trains inoperable, immediately suspend movement of irradiated fuel assemblies.
- d. With the Control Room Envelope boundary inoperable, immediately suspend movement of irradiated fuel assemblies.
- e. With one or both series isolation damper(s) on a normal CAACS outside air intake or exhaust duct inoperable, immediately suspend movement of irradiated fuel assemblies until the affected duct is closed by use of at least one isolation damper secured in the closed position. (Refer to ACTION 25 of Table 3.3-6.)
- f. With one or both series isolation damper(s) on an outside emergency air conditioning air intake duct inoperable, immediately suspend movement of irradiated fuel assemblies until the affected duct is closed by use of at least one isolation damper secured in the closed position. To resume movement of irradiated fuel assemblies, at least one emergency air intake duct must be operable on each unit.



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

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. 286  
Renewed 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 July 17, 2012, as supplemented by letters dated January 28, 2013, and March 22, 2013, 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.

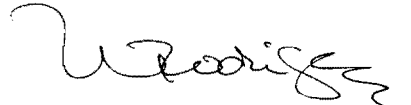
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-75 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 286, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Veronica M. Rodriguez, Acting Chief  
Plant Licensing Branch 1-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License and the Technical Specifications

Date of Issuance: July 17, 2013



ATTACHMENT TO LICENSE AMENDMENT NO. 286

RENEWED FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

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

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Page 3

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

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- (4) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source or special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration and as fission detectors in amounts as required;
  - (5) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
  - (6) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level  
PSEG Nuclear LLC is authorized to operate the facility at steady state reactor core power levels not in excess of 3459 megawatts (thermal).
  - (2) Technical Specifications and Environmental Protection Plan  
The Technical Specifications contained in Appendix A, as revised through Amendment No. 286, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

## PLANT SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

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- d. With one or both series isolation damper(s) on a normal Control Area Air Conditioning System (CAACS) outside air intake or exhaust duct inoperable, close the affected duct within 4 hours by use of at least one isolation damper secured in the closed position or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (Refer to ACTION 28 of Table 3.3-6.)
- e. With one or both isolation damper(s) on an outside emergency air conditioning air intake duct inoperable, close the affected duct within 4 hours by use of at least one isolation damper secured in the closed position and restore the damper(s) to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### MODES 5 and 6 or during movement of irradiated fuel assemblies

- a. With one filtration train inoperable, align CREACS for single filtration train operation within 4 hours, or suspend movement of irradiated fuel assemblies.
- b. With CREACS aligned for single filtration train operation with one of the two remaining fans or associated outlet damper inoperable, restore the fan or damper to OPERABLE status within 72 hours, or suspend movement of irradiated fuel assemblies.
- c. With two filtration trains inoperable, immediately suspend movement of irradiated fuel assemblies.
- d. With the Control Room Envelope boundary inoperable, immediately suspend movement of irradiated fuel assemblies.
- e. With one or both series isolation damper(s) on a normal CAACS outside air intake or exhaust duct inoperable, immediately suspend movement of irradiated fuel assemblies until the affected duct is closed by use of at least one isolation damper secured in the closed position. (Refer to ACTION 28 of Table 3.3-6.)
- f. With one or both series isolation damper(s) on an outside emergency air conditioning air intake duct inoperable, immediately suspend movement of irradiated fuel assemblies until the affected duct is closed by use of at least one isolation damper secured in the closed position. To resume movement of irradiated fuel assemblies, at least one emergency air intake duct must be operable on each unit.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 304 AND 286 TO

RENEWED 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 application dated July 17, 2012 (Reference 1), as supplemented by letters dated January 28, 2013 (Reference 2), and March 22, 2013 (Reference 3), PSEG Nuclear, LLC (PSEG or the licensee) requested changes to the Renewed Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2.

The License Amendment Request (LAR) proposes to modify Salem Unit No. 1 Technical Specification (TS) 3.7.6.1, and Salem Unit No. 2 TS 3.7.6, "Control Room Emergency Air Conditioning System," by deleting individual Action statements f (MODES 1, 2, 3, and 4) and g (MODES 5 and 6) for inoperable isolation dampers between the normal Control Area Air Condition System (CAACS) and Control Room Emergency Air Conditioning System (CREACS). The licensee stated that Action statement c (MODES 1, 2, 3 and 4), in the same TSs for an inoperable Control Room Envelope (CRE), will provide the level of protection provided by Action statements f and g for meeting the CRE boundary limits of the radiological, smoke, and chemical hazards analyses.

The supplemental letter dated March 22, 2013, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on April 2, 2013 (78 FR 19754).

2.0 REGULATORY EVALUATION

The Salem Unit Nos. 1 and 2 CREACS share a common CRE with two 100% capacity filtration trains (one from each unit). During radiological design-basis accidents, the CREACS is automatically initiated by either a safety injection signal or a control room radiation monitor, and operates in the pressurization mode. For chemical and fire events outside the control area, the CREACS is manually initiated by the control room operators in recirculation mode. Isolation dampers 1/2CAA14, and 1/2CAA20 were installed in the ducting that connects the normal CAACS and CREACS pathways to maintain the ventilation boundary of the CRE. The normal

CAACS to CREACS flowpaths contain only one damper for isolating the normal and emergency control room ventilation systems from each other.

With any isolation damper between the normal CAACS and the CREACS inoperable while the unit is in Modes 1, 2, 3 or 4, Action f (Unit No. 1 TS 3.7.6.1 and Unit No. 2 TS 3.7.6) requires the licensee to secure the damper in the closed position within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. If the unit is in Modes 5 or 6 or during the movement of irradiated fuel assemblies and any isolation damper between the normal CAACS and the CREACS is inoperable, Action g requires the immediate suspension of movement of irradiated fuel assemblies until the damper is closed and secured in the closed position. These actions ensure that the CAACS system is isolated from the CRE such that unfiltered air from the CAACS does not enter the CRE, and that the CREACS system remains capable of maintaining a positive pressure in the CRE with respect to all adjacent areas.

The licensee addressed the regulatory requirements applicable to the proposed amendment in Section 5.1 of Attachment 1 to the application dated July 17, 2012. The NRC staff considered the General Design Criteria (GDC), Criterion 19, "Control room," in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "General Design Criteria for Nuclear Power Plants," in its review of the proposed amendment. GDC 19 requires adequate radiation protection be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of five roentgen equivalent man [rem] whole body, or its equivalent, to any part of the body, for the duration of the accident. Salem Unit Nos. 1 and 2 were designed to the Atomic Industrial Forum version of the GDC, dated October 2, 1967. In Section 3.1.3 of the Salem Updated Final Safety Analysis Report (UFSAR), the licensee discusses compliance with the GDC in Appendix A of 10 CFR Part 50, and does not identify any deviations from GDC 19.

In addition, the NRC's guidance specifies criteria for control room habitability and post-accident fission product control and removal. Guidance in Standard Review Plan Sections 6.4, "Control Room Habitability System," and 9.4.1, "Control Room Area Ventilation System," contain specific review criteria

The limits on the accident source term used in design-basis radiological consequence analysis with regard to radiation exposure to members of the public and control room occupants are established in 10 CFR 50.67, "Accident Source Term."

The requirements for the content of TSs are contained 10 CFR 50.36. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) Surveillance Requirements; (4) design features; and (5) administrative controls.

As stated in 10 CFR 50.36(c)2, LCOs are the lowest functional capability or performance level of equipment required for safe operation of the facility and when LCOs are not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the LCO can be met.

In determining the acceptability of revising the CREACS TS, the NRC staff used plant-specific licensing basis information, as well as the accumulation of generically-approved guidance provided for TS 3.7.10, "Control Room Emergency Filtration System," in NUREG-1431, Revision 4, Volume 1, "Standard Technical Specifications – Westinghouse Plants," (Westinghouse STS) (Reference 4) for isolation dampers. The NRC staff may grant a licensee's request to revise the TSs, provided that the NRC staff plant-specific review supports a finding of continued adequate safety because: (1) the change is editorial, administrative, or provides clarification (i.e., no requirements are materially altered); (2) the change is more restrictive than the licensee's current requirement; or (3) the change is less restrictive than the licensee's current requirement, but nonetheless still affords adequate assurance of safety when judged against current regulatory standards. The detailed application of this general framework, and additional specialized guidance, are discussed in Section 3.0 below in the context of specific proposed changes.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Proposed TS Change

The actions that currently apply to the isolation dampers between the normal CAACS and the CREACS in TS 3.7.6.1 for Unit No. 1, and TS 3.7.6 for Unit No. 2, are as follows:

Action f applicable in Modes 1, 2, 3, and 4.

With any isolation damper between the normal CAACS and the CREACS inoperable, secure the damper in the closed position within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Action g applicable in Modes 5 and 6.

With any isolation damper between the CAACS and the CREACS inoperable, immediately suspend movement of irradiated fuel assemblies until the damper is closed and secured in the closed position.

The licensee is proposing the deletion of Actions f and g from Unit Nos. 1 and 2 TSs.

#### 3.2 NRC Staff Evaluation

##### 3.2.1 CREACS in Technical Specification

The isolation dampers between the CAACS and CREACS, which are the subject of this LAR, and the TS actions to close and secure the dampers in the closed position in case they are inoperable, were originally requested by LAR dated June 10, 1996 (Reference 5), and later approved by Amendments 190 and 173 (Reference 6). Prior to these amendments, the control rooms for Salem Unit Nos. 1 and 2 were separate and each control room was served by a single train ventilation system that operated in recirculation in response to design-basis radiological events. The modifications performed to the CREACS as a result of these amendments combined the Unit No. 1 and Unit No. 2 control rooms into a common CRE with two 100% capacity filter trains (one from each unit). The CREACS was also revised from a recirculation system to a pressurization system for design-basis radiological events. The

CREACS is automatically initiated by either a safety injection signal or control room radiation monitor for design-basis radiological accidents, and manually initiated in recirculation mode by the control room operators for chemical and fire events outside the control area.

In addition to actions for an inoperable damper between CAACS and CREACS, Amendments 190/173 also added an action (Action c) for an inoperable CRE boundary. The action times for an inoperable isolation damper (Action f) and an inoperable CRE boundary (Action c) were 4 hours, until the adoption of Technical Specification Task Force 448, Revision 3, "Control Room Habitability," by Salem Unit Nos. 1 and 2 Amendments 286 and 269 in January 24, 2008 (Reference 7). The associated TS change for Amendments 286/269 revised the action statement (Action c) for an inoperable control room boundary, as follows:

- c. With the Control Room Envelope boundary inoperable:
  1. Immediately, initiate action to implement mitigating actions, and
  2. Within 24 hours, verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits, and
  3. Within 90 days, restore the Control Room Envelope boundary to OPERABLE status, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

These actions ensure that mitigating actions are taken that maintain the plant operation consistent with the radiological, chemical, and smoke hazard analyses.

The licensee's request for a TS change in the present LAR applies to 4 dampers; one in the supply duct and one in the return duct interconnections between the two trains of normal CAACS and emergency CREACS. Thus, the Unit No. 1 TS change applies to 2 dampers (1CAA14, 1CAA20) and the Unit No. 2 TS change applies to 2 more dampers (2CAA14, 2CAA20). The licensee stated that the intent of the current TS actions is to close and secure the damper in closed position to ensure that the CAACS system is isolated from the CRE such that unfiltered air from the CAACS does not enter the CRE and that the CREACS system remains capable of maintaining positive pressure in the CRE with respect to all adjacent areas. Since the actions required by c or f and g are redundant, the licensee believes that either Action c or Actions f and g will serve the intended purpose of the TS. The licensee is proposing the elimination of Actions f and g for the following reasons:

- The interconnecting duct between the normal CAACS and CREACS contains only one damper. The current Action statements f or g does not allow the ability to open the damper when the damper is declared inoperable.
- This restriction prevented maintenance activities on the damper since the CREACS was modified in late 1990s. Although the dampers have performed well during surveillance testing and tracer gas testing, the licensee desires to perform preventive maintenance on these dampers to improve their reliability and avoid potential entries into shutdown action as a result of failure of the isolation damper to close properly.

However, the current actions for an inoperable control room boundary (Action c) would allow the implementation of mitigating actions that ensure the CRE boundary is able to meet the limits of the radiological, smoke and chemical hazards analyses. The licensee stated that performance of the mitigating actions will allow performance of maintenance activities.

In response to the NRC staff's request for additional information, the licensee submitted a letter dated March 22, 2013, describing the mitigating actions and compensatory measures to maintain the plant within the limits of the radiological, smoke and chemical hazards analyses. The compensatory measures will consist of placing a barrier between the CRE and the CAACS/CREACS isolation dampers in accordance with the CRE Habitability Program. The licensee further stated that the mitigating actions are governed by applicable Training and Reference Material in "Control Room Envelope Habitability Program Implementation," and a procedure for control of CRE boundary breaches, including directions to evaluate the effect on control room habitability prior to breaching the CRE boundary and to ensure that mitigating actions are in place to close the breach when CRE isolation is required.

### 3.2.2 Technical Specification Changes

When Salem Unit Nos. 1 or 2 are in Modes 1, 2, 3 or 4, Action f requires the licensee to secure the inoperable isolation damper in the closed position within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In Modes 5 and 6, or during the movement of irradiated fuel assemblies, Action g requires immediate suspension of movement of irradiated fuel assemblies until the inoperable damper is closed and secured in the closed position. These actions to isolate the CAACS system from the CRE ensures that unfiltered air from areas external to the CRE boundary does not enter the CRE and that the operability of the associated CREACS is regained following the closure of the inoperable damper.

The licensee proposes to delete Actions f and g from the TSs. According to the licensee, the intentions of Actions f and g are the same as the intention of Action c, namely to ensure that the CRE is operated within the bounds of the radiological, smoke and chemical hazards analyses. Action c applies when the CRE is inoperable and requires the licensee to immediately initiate action to implement mitigating actions, verify within 24 hours that mitigating actions to ensure CRE occupants exposures to radiological, chemical and smoke hazards will not exceed limits, and within 90 days restore the CRE boundary to operable status, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The NRC staff determined that the proposed changes are less restrictive because it would remove specific and timely requirements in Action f during Modes 1, 2, 3 and 4, namely place the affected dampers in the closed position within 4 hours, and in Action g during Modes 5 and 6 to immediately suspend movement of irradiated fuel assemblies until the damper is closed and secured in the closed position. However, the staff also determined that Action c in Modes 1, 2, 3, and 4 ensures that the CRE is operated within the bounds of radiological, smoke and chemical hazards analyses, albeit in potentially not as restrictive a time frame as Action f because Action c requires immediate initiation of actions to implement mitigating actions and verification within 24 hours that mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards. If the isolation damper inoperability is such that it can be manually closed and secured in place, the action can be accomplished in a reasonable



time that is fairly consistent with the current time allowed by Action f. However, if the damper inoperability is such that it cannot be manually secured closed, then mitigating actions such as installing a barrier in the duct could potentially take more time than allowed by the current Action f. The NRC staff's review also concludes that the requested TS change allows for preventive maintenance to be performed on the isolation damper, thus improving its reliability and avoiding unnecessary entry into shutdown actions. The staff considers this acceptable since entry into the Completion Time for the performance of preventative maintenance is a voluntary operation. Preventative maintenance is done under a pre-planned plant process. Intentionally entering Actions for this reason is done in a way which does not compromise safety. The alternate train of CREACS will be available to provide necessary cooling. Therefore, the staff concludes that in spite of being less restrictive than the current requirement, it still affords adequate assurance of safety when judged against current regulatory standards.

The NRC staff also reviewed the dampers for other functions. Based on UFSAR figures 9.4-1a and 9.4-1b, dampers 1(2)CAA14 located on the supply side of the CREACS units appear to function as system isolation dampers, as well as CRE boundary dampers. These dampers isolate the CREACS from the CAACS. This helps reduce the potential for loss of cooling to the control room through the duct connection to the CAACS multi-zone ventilation unit. Prevention of loss of cooling is important to reduce the loss of solid-state control room instrumentation (see Information Notice No. 85-89, "Potential Loss of Solid-State Instrumentation Following Failure of Control Room Cooling"). The staff's review determined that additional means (e.g., back draft and volume dampers) are available in the CAACS duct to block CREACS cooling flow from back-feeding the CAACS multi-zone unit.

The NRC staff's review also determined that the proposed change (i.e., elimination of separate action statements) will make Salem Unit Nos. 1 and 2 TSs more consistent with NUREG-1431, Revision 4, Volume 1, "Standard Technical Specifications – Westinghouse Plants" (Westinghouse STS).

### 3.2.3 Summary and Conclusions

The proposed change will have no impact on the initiation of the CREACS automatically during radiological design-basis events and its operation in a pressurization mode. The proposed change will also have no impact on the initiation of CREACS manually during chemical or fire events outside the control area. The feasibility for preventive maintenance afforded by the proposed change will increase the isolation damper reliability. The capability to close and secure the isolation damper manually or back-up means such a temporary isolation barrier will provide operational flexibility to avoid unnecessary entry into shutdown actions. Once an isolation barrier is established by either the damper or back-up means, the CREACS will still have the redundant systems from Unit Nos. 1 and 2 available to the common control room. The NRC staff concludes that current control room habitability remains bounding, and therefore guidance in GDC 19 and applicable standard review plans remain satisfied, and compliance with 10 CFR 50.67 remain unaffected by the proposed change. The staff finds the proposed change 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, as stated in the letter dated September 14, 2012, from the New Jersey Department of Environmental Protection (Reference 8).

#### 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 and changes surveillance requirements. 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 (74 FR 42929). 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) there is reasonable assurance that 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: J. Raval, NRR/DSS/SCVB  
M. Hamm, NRR/DSS/STSB

Date: July 17, 2013

#### References

1. Letter from PSEG to NRC dated July 17, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12199A426).
2. Supplemented letter from PSEG to NRC dated January 28, 2013 (ADAMS Accession No. ML13028A268).
3. Supplemented letter from PSEG to NRC dated March 22, 2013 (ADAMS Accession No. ML13081A418).

4. Guidance provided for TS 3.7.10, "Control Room Emergency Filtration System," in NUREG-1431, Revision 4, Volume 1, "Standard Technical Specifications – Westinghouse Plants" (Westinghouse STS) (ADAMS Accession No. ML12100A222).
5. PSEG LAR dated June 10, 1996 (ADAMS Legacy Library No. 9606180681), later approved by Amendments 190 (Unit 1) and 173 (Unit 2).
6. Letter dated February 6, 1997; NRC approved Amendment No. 190 for Unit 1 and Amendment No. 173 for Unit 2 (ADAMS Accession No. ML011720339).
7. Letter dated January 24, 2008; NRC approved Amendment No. 286 for Unit 1 and Amendment No. 269 for Unit 2 (ADAMS Accession No. ML073470344).
8. Letter from the New Jersey Department of Environmental Protection to the U.S. NRC, dated September 14, 2012 (ADAMS Accession No. ML12272A304).

July 17, 2013

Mr. Thomas Joyce  
President and Chief Nuclear Officer  
PSEG Nuclear  
P.O. Box 236, N09  
Hancocks Bridge, NJ 08038

**SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: REVISION TO TECHNICAL SPECIFICATION 3.7.6.1 (UNIT 1) AND 3.7.6 (UNIT 2), "CONTROL ROOM EMERGENCY AIR CONDITIONING SYSTEM" (TAC NOS. ME9095 AND ME9096)**

Dear Mr. Joyce:

The Commission has issued the enclosed Amendment Nos. 304 and 286 to Renewed Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2 (Salem). These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 17, 2012, as supplemented by letters dated January 28, 2013, and March 22, 2013.

The amendments revised Salem TS 3.7.6.1 (Unit 1) and 3.7.6 (Unit 2), "Control Room Emergency Air Conditioning System," to eliminate the separate action statements for securing an inoperable Control Area Air Conditioning System and Control Room Emergency Air Conditioning System isolation damper in the closed position and entering the actions for an inoperable control room envelope boundary.

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/*  
John D. Hughey, 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. 304 to Renewed DPR-70
2. Amendment No. 286 to Renewed DPR-75
3. Safety Evaluation

cc w/encs: Distribution via Listserv

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Accession No.: **ML13171A063**

\*via memo dated

\*\*via email

OFFICE	LPL1-2/PM	LPL1-2/LA**	SCVB/BC*	ITSB/BC*	AADB/BC	OGC (NLO)	LPL1-2/BC	LPL1-2/PM
NAME	JHughey	ABaxter	RDennig	RElliott	TTate (JParillo for)	SUttal (w/changes)	VRodriguez	JHughey
DATE	07/17/2013	07/09/2013	06/14/13	06/04/2013	07/05/2013	07/15/2013	07/17/2013	07/17/2013

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