



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

December 15, 2010

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

SUBJECT: HOPE CREEK GENERATING STATION AND SALEM NUCLEAR
GENERATING STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS
RE: PROPOSED REVISION TO TECHNICAL SPECIFICATIONS - REMOVAL
OF REACTOR COOLANT SYSTEM STRUCTURAL INTEGRITY
REQUIREMENTS (TAC NOS. ME3577, ME3578 AND ME3579)

Dear Mr. Joyce:

The Commission has issued the enclosed Amendment No. 186 to Facility Operating License (FOL) No. NPF-57 for the Hope Creek Generating Station (HCGS) and Amendment Nos. 298 and 281 to FOL Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2, in response to your application dated March 25, 2010. The amendments revise the Technical Specifications (TSs) to: (1) delete the reactor coolant system structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11; (2) relocate the augmented inservice inspection requirements for the reactor coolant pump flywheel, currently contained in Salem Unit 1 surveillance requirement (SR) 4.4.10.1.1 and Salem Unit 2 SR 4.4.11.1, to a new program in TS 6.8.4.k; and (3) delete the augmented inservice inspection program requirements for the steam generator channel heads currently contained in Salem Unit 1 SR 4.4.10.1.2.

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 "R B Ennis", is positioned below the word "Sincerely,".

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-354, 50-272 and 50-311

Enclosures:

1. Amendment No. 186 to License No. NPF-57
2. Amendment No. 298 to License No. DPR-70
3. Amendment No. 281 to License No. DPR-75
4. Safety Evaluation

cc w/encls: Distribution via ListServ



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

PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 186
License No. NPF-57

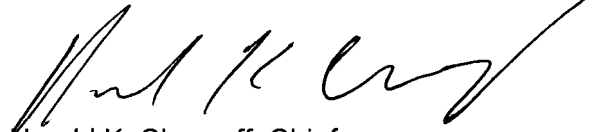
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by PSEG Nuclear LLC dated March 25, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set 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. NPF-57 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. 186, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'Harold K. Chernoff', is written over the printed name.

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

Attachment: Changes to the License
and Technical Specifications

Date of Issuance: December 15, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 186

FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following page of the Facility Operating License with the revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove
Page 3

Insert
Page 3

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

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3/4 4-27

- (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 and 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. Mechanical disassembly of the GE14i isotope test assemblies containing Cobalt-60 is not considered separation.
- (7) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Part 30, to intentionally produce, possess, receive, transfer, and use Cobalt-60.

C. This 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 reactor core power levels not in excess of 3840 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 186, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Inservice Testing of Pumps and Valves (Section 3.9.6, SSER No. 4)*

This License Condition was satisfied as documented in the letter from W. R. Butler (NRC) to C. A. McNeill, Jr. (PSE&G) dated December 7, 1987. Accordingly, this condition has been deleted.

* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

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REACTOR COOLANT SYSTEM

3/4.4.8 DELETED



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. 298
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 March 25, 2010, 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. 298, 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

A handwritten signature in black ink, appearing to read 'H K Chernoff', is written over the typed name.

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

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

Date of Issuance: December 15, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 298

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

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Page 4

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.

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(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

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 298, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(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 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 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 Analysis Report, and as approved in the NRC Safety Evaluation Report dated November 20, 1979, and in its supplements, subject to the following provision:

PSEG Nuclear LLC may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

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REACTOR COOLANT SYSTEM

3.4.10 DELETED

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ADMINISTRATIVE CONTROLS

6.8.4.j Inservice Testing Program

This Program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

- a. Testing frequencies applicable to the ASME Code for Operations and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as follows:

ASME OM Code and applicable Addenda terminology for inservice testing activities	Required Frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

- b. The provisions of Specification 4.0.2 are applicable to the above required frequencies and to other normal and accelerated frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities,
- c. The provisions of Specification 4.0.3 are applicable to inservice testing activities, and
- d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any Technical Specification.

6.8.4.k Reactor Coolant Pump Flywheel Inspection Program

In addition to the requirements of the ISI Program, each Reactor Coolant Pump flywheel shall be inspected per the recommendations of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975. In lieu of Position C.4.b(1) and C.4.b(2), a qualified in-place UT examination over the volume from the inner bore of the flywheel to the circle one-half of the outer radius or a surface examination (MT and/or PT) of exposed surfaces of the removed flywheels may be conducted at 20 year intervals.



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. 281
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 March 25, 2010, 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. 281, 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



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

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

Date of Issuance: December 15, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 281

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

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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.

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(2) Technical Specifications and Environmental Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 281, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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REACTOR COOLANT SYSTEM

3.4.11 DELETED

ADMINISTRATIVE CONTROLS

4. When the W* methodology has been implemented, inspect 100 percent of the inservice tubes for the entire hot-leg tubesheet W* distance with the objective of detecting flaws that may satisfy the applicable tube repair criteria of TS 6.8.4.i.c.1 every 24 effective full power months or one refueling outage (whichever is less).

- e. Provisions for monitoring operational primary-to-secondary leakage.

6.8.4.j Inservice Testing Program

This Program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program shall include the following:

- a. Testing frequencies applicable to the ASME Code for Operations and Maintenance of Nuclear Power Plants (ASME OM Code) and applicable Addenda as follows:

ASME OM Code and applicable Addenda terminology for inservice testing activities	Required Frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

- b. The provisions of Specification 4.0.2 are applicable to the above required frequencies and to other normal and accelerated frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing activities,
- c. The provisions of Specification 4.0.3 are applicable to inservice testing activities, and
- d. Nothing in the ASME OM Code shall be construed to supersede the requirements of any Technical Specification.

6.8.4.k Reactor Coolant Pump Flywheel Inspection Program

In addition to the requirements of the ISI Program, each Reactor Coolant Pump flywheel shall be inspected per the recommendations of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975. In lieu of Position C.4.b(1) and C.4.b(2), a qualified in-place UT examination over the volume from the inner bore of the flywheel to the circle one-half of the outer radius or a surface examination (MT and/or PT) of exposed surfaces of the removed flywheels may be conducted at 20 year intervals.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 186, 298 AND 281 TO FACILITY OPERATING
LICENSE NOS. NPF-57, DPR-70 AND DPR-75
PSEG NUCLEAR LLC
HOPE CREEK GENERATING STATION
AND SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-354, 50-272, AND 50-311

1.0 INTRODUCTION

By application dated March 25, 2010, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100920052), PSEG Nuclear LLC (PSEG or the licensee) submitted license amendment requests for the Hope Creek Generating Station (HCGS) and Salem Nuclear Generating Station (Salem) Unit Nos. 1 and 2. The proposed amendments would: (1) delete the reactor coolant system (RCS) structural integrity requirements contained in HCGS Technical Specification (TS) 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11; (2) relocate the augmented inservice inspection (ISI) requirements for the reactor coolant pump (RCP) flywheel, currently contained in Salem Unit 1 surveillance requirement (SR) 4.4.10.1.1 and Salem Unit 2 SR 4.4.11.1, to a new program in TS 6.8.4.k; and (3) delete the augmented ISI program requirements for the steam generator (SG) channel heads currently contained in Salem Unit 1 SR 4.4.10.1.2.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission's (NRC's or the Commission's) regulatory requirements related to the content of the TSs are set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." This regulation requires that the TSs include items in the following five specific categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls. The regulation does not specify the particular requirements to be included in a plant's TSs.

On July 22, 1993 (58 FR 39132), the Commission published a "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (Final Policy Statement) which discussed the criteria to determine which items are required to be included in the TSs as LCOs. The criteria were subsequently incorporated into the regulations by an amendment to 10 CFR 50.36 (60 FR 36953, July 19, 1995). Specifically, 10 CFR 50.36(c)(2)(ii) requires that a TS LCO be established for each item meeting one or more of the following criteria:

Enclosure

Criterion 1

Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2

A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 3

A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 4

A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

As discussed in the *Federal Register* notice for the final rule dated July 19, 1995 (60 FR 36955):

LCOs that do not meet any of the criteria, and their associated actions and surveillance requirements, may be proposed for relocation from the technical specifications to licensee-controlled documents, such as the FSAR [Final Safety Analysis Report]. The criteria may be applied to either standard or custom technical specifications.

The licensee's application dated March 25, 2010, provided the following background information regarding the proposed amendments:

The RCS Structural Integrity TS specifies the requirements for maintaining the structural integrity of the [American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code)] Class 1, 2 and 3 components. This specification was originally intended to support assurance that structural integrity and operational readiness of these components are maintained at an acceptable level throughout the life of the facility. The specification is applicable in all operational modes. However, the specification does not provide actions for plant shutdown if its Limiting Condition for Operation (LCO) is not met. In addition, the specification contains no surveillance requirements other than reference to TS 4.0.5^[1], the Inservice Inspection (ISI) Program (and, for Salem only, the augmented RCP flywheel inspection [and] Augmented Inservice Inspection

1 TS 4.0.5 was deleted from the Salem 1 and 2 TSs in Amendment Nos. 297 and 279 dated August 20, 2010 (ADAMS Accession No. ML102080501) and in Hope Creek Amendment No. 185 dated October 19, 2010 (ADAMS Accession No. ML102530495). As discussed in the Safety Evaluations for these amendments, the NRC staff concluded that deletion of the ISI Program requirements from the TSs (i.e., TS 4.0.5) eliminates the regulatory redundancy between the TSs and Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a. In addition, the above referenced amendments revised the SRs for the RCS Structural Integrity TSs to reference the ISI Program rather than TS 4.0.5.

Program for Steam Generator Channel Heads (which is historical)). This is because the specification addresses the passive pressure boundary function of ASME Code Class 1, 2 and 3 components as established by compliance with the ISI program. The ISI program is required pursuant to 10 CFR 50.55a, "Codes and Standards." Furthermore, the specification wording could be misconstrued to conflict with normal outage-related activities, including removal of the Reactor Vessel head in preparation for refueling, a time in which the RCS pressure boundary would no longer be intact. This TS does not fulfill any of the criteria of 10 CFR 50.36([c])(2)(ii) for retention in the TS.

Maintaining a program-type requirement within an LCO creates significant interpretation issues for Operations personnel. The RCS structural integrity TS was part of the original TS. It appears to have been included to help ensure that plant heat up and startup would not occur until all required ASME Code Class 1, 2 and 3 components were verified to meet ISI acceptance criteria following inspections performed during a plant outage (normally performed during refueling outages). Meeting this acceptance criterion helps ensure the integrity of ASME Code Class 1, 2 and 3 components during all modes of operation, including accident events. However, the RCS pressure boundary and other ASME Code Class 1, 2 and 3 components are purposely breached during Mode 5 and 6 operations to support plant outage activities and such openings are not historically considered a violation of the RCS Structural Integrity TS. Furthermore, the RCS Structural Integrity TS contains no actions suggesting it was designed to accommodate integrity concerns once plant heat up has commenced. ASME Code Class 1, 2 and 3 component structural integrity ISI activities are performed primarily during plant outages when conditions exist that permit access, or are controlled through application of the ISI program during the operational cycle. Other TS are designed to monitor structural integrity during operation and provide actions to shutdown the unit if compliance is not maintained. For example, RCS heat up and cool down rates protect against applying undue stresses as a result of pressure/temperature transients on RCS components and piping. RCS leakage TS provides a means of protecting the RCS integrity by detecting and monitoring leakage. Therefore, it is not necessary to apply the RCS Structural Integrity TS when integrity issues become evident during plant operation above cold shutdown. Because the RCS Structural Integrity TS is redundant to other regulations, it is acceptable to remove the TS requirements from the TSs.

3.0 TECHNICAL EVALUATION

As discussed above in safety evaluation (SE) Section 1.0, the proposed amendments would delete the RCS structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11. Specifically, the proposed amendments would delete the respective LCOs and portions of the SRs pertaining to the general requirements for ISI of the ASME Code Class 1, 2 and 3 components. The changes associated with RCS structural integrity are evaluated below in SE Section 3.1.

Salem Unit 1 TS 3/4.4.10 and Salem Unit 2 TS 3/4.4.11 also contain specific SRs related to the RCP flywheel and SG channel heads. The proposed amendment would relocate the RCP flywheel requirements, currently contained in Salem Unit 1 SR 4.4.10.1.1 and Salem Unit 2 SR 4.4.11.1, to a new program in TS 6.8.4.k. This change is evaluated below in SE Section 3.2. In addition, the proposed amendment would delete the requirements for the SG channel heads currently contained in Salem Unit 1 SR 4.4.10.1.2. This change is evaluated below in SE Section 3.3.

3.1 Deletion of RCS Structural Integrity TS Requirements

The NRC staff evaluated the proposed deletion of the RCS structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11 with respect to the criteria in 10 CFR 50.36(c)(2)(ii) as discussed below.

Criterion 1

Criterion 1 of 10 CFR 50.36(c)(2)(ii) applies to:

Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

The LCOs associated with the TSs that are proposed for deletion require that the structural integrity of ASME Code Class 1, 2 and 3 components be maintained. The licensee's application dated March 25, 2010, stated that the ASME Code Class 1, 2, and 3 components do not include any instrumentation. As such, the NRC staff finds that the TSs proposed for deletion do not meet Criterion 1.

Criterion 2

Criterion 2 of 10 CFR 50.36(c)(2)(ii) applies to:

A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The RCS structural integrity TS requirement is neither a process variable, design feature, or operating restriction that is an initial condition of a design-basis accident (DBA) or transient analysis. Structural integrity is a passive aspect of plant operation that is verified during periodic inspections as required by the ISI program in accordance with 10 CFR 50.55a. Therefore, the NRC staff finds that the TSs proposed for deletion do not meet Criterion 2.

Criterion 3

Criterion 3 of 10 CFR 50.36(c)(2)(ii) applies to:

A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that

either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

ASME Code Class 1, 2 and 3 components that are part of the primary success path and which function or actuate to mitigate DBAs or transients that either assume the failure of, or present a challenge to, the integrity/operability of these components are included in the individual TS that covers these components. The TSs proposed to be deleted address only the passive pressure boundary function of these components. Therefore, the NRC staff finds that the TSs proposed for deletion do not meet Criterion 3.

Criterion 4

Criterion 4 of 10 CFR 50.36(c)(2)(ii) applies to:

A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The requirements covered by the TSs proposed for deletion have not been shown to be significant to public health and safety by either operating experience or by probabilistic safety assessment. Therefore, the NRC staff finds that the TSs proposed for deletion do not meet Criterion 4.

Conclusion

As discussed above, the RCS structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11 do not meet any of the four criteria in 10 CFR 50.36(c)(2)(ii). Therefore, the NRC staff concludes that the proposed deletion of the RCS structural integrity TSs is acceptable. In applying the Commission Final Policy Statement, the NRC staff would normally require that a licensee identify both the licensee-controlled document receiving a relocated TS and the change control mechanism that governs that document. However, in this instance, the licensee proposes deletion without relocation of the TSs. The NRC staff concludes this proposed deletion without relocation to be acceptable because the ASME Code Class 1, 2 and 3 structural integrity requirements are enforced via compliance with the requirements in 10 CFR 50.55a.

3.2 Relocation of RCP Flywheel TS Requirements

As discussed in Salem Updated Final Safety Analysis Report Sections 5.2.6, 5.5.1.1 and 5.5.1.3.2, each RCP includes a flywheel on the shaft above the RCP motor to provide additional inertia in order to extend pump coast down. Following an assumed loss of power to the RCP motor, the flywheel, in conjunction with the pump rotating parts and motor, provide sufficient rotational inertia to provide adequate reactor coolant flow during RCP coast down.

During operation at normal speed, a flywheel has sufficient kinetic energy to produce high-energy missiles and excessive vibration of the RCP assembly if the flywheel should fail. Overspeed of the pump rotor assembly during a transient increases both the potential for failure and the kinetic energy of the flywheel. To address concerns regarding potential flywheel failures under overspeed conditions, Regulatory Guide (RG) 1.14, "Reactor Coolant Pump

Flywheel Integrity,” Revision 1, dated August 1975 (ADAMS Accession No. ML003739936) provided recommendations regarding flywheel material and fabrication, flywheel design, flywheel testing, and flywheel inspection.

Salem Unit 1 SR 4.4.10.1.1 and Salem Unit 2 SR 4.4.11.1 provide requirements for RCP flywheel inspection based, in part, on the recommendations in RG 1.14. The proposed amendments would relocate the current RCP flywheel inspection requirements to new TS 6.8.4.k, “Reactor Coolant Pump Flywheel Inspection Program” in each of the Salem Unit 1 and 2 TSs. As there is no specific LCO for the flywheels, the NRC staff finds that relocating the flywheel inspection requirements to the Administrative Controls section of the TSs is appropriate. Furthermore, the proposed amendments would not change the current inspection requirements. As such, the change is administrative in nature. Based on these considerations, the NRC staff concludes that the proposed relocation of the RCP flywheel TS requirements is acceptable.

3.3 Deletion of SG Channel Heads TS Requirements

In the application dated March 25, 2010, the licensee proposed to delete the augmented ISI program requirements for the SG channel heads contained in Salem Unit 1 SR 4.4.10.1.2 and Salem Unit 2 SR 4.4.11.2. The same change for Salem Unit 2 was also proposed as part of PSEG’s application dated September 14, 2009, that requested miscellaneous administrative and editorial changes to the Salem Unit 1 and 2 TSs and licenses. On June 15, 2010, the NRC staff issued Salem Unit 2 Amendment No. 278 (ADAMS Accession No. ML101300307), which, in part, deleted Salem Unit 2 SR 4.4.11.2. As such, this SE only addresses the proposed change for Salem Unit 1.

Salem Unit 1 SR 4.4.10.1.2 requires that the SG channel heads be ultrasonically inspected “during each of the first three refueling outages.” Salem Unit 1 completed its 20th refueling outage in spring 2010. The licensee proposed to remove this SR since it is historical and is no longer applicable. The NRC staff concludes that this change is acceptable because the SR does not contain any requirements applicable to current or future operations.

3.4 TS Index Changes

The licensee has proposed changes to the applicable TS Index pages to reflect deletion of the RCS structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11. The NRC staff finds that these changes are administrative in nature, and therefore are acceptable.

3.5 Technical Evaluation Conclusion

Based on the discussion in SE Sections 3.1 through 3.4, the NRC staff concludes that the proposed amendments are acceptable.

PSEG’s application dated March 25, 2010, provided proposed changes to the TS Bases to be implemented with the associated TS changes. These pages were provided for information only and will be revised in accordance with the TS Bases Control Program.

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 and changes SRs. 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 (75 FR 33843). 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: J. Whited
R. Ennis

Date: December 15, 2010

December 15, 2010

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

SUBJECT: HOPE CREEK GENERATING STATION AND SALEM NUCLEAR
GENERATING STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS
RE: PROPOSED REVISION TO TECHNICAL SPECIFICATIONS - REMOVAL
OF REACTOR COOLANT SYSTEM STRUCTURAL INTEGRITY
REQUIREMENTS (TAC NOS. ME3577, ME3578 AND ME3579)

Dear Mr. Joyce:

The Commission has issued the enclosed Amendment No. 186 to Facility Operating License (FOL) No. NPF-57 for the Hope Creek Generating Station (HCGS) and Amendment Nos. 298 and 281 to FOL Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2, in response to your application dated March 25, 2010. The amendments revise the Technical Specifications (TSs) to: (1) delete the reactor coolant system structural integrity requirements contained in HCGS TS 3/4.4.8, Salem Unit 1 TS 3/4.4.10, and Salem Unit 2 TS 3/4.4.11; (2) relocate the augmented inservice inspection requirements for the reactor coolant pump flywheel, currently contained in Salem Unit 1 surveillance requirement (SR) 4.4.10.1.1 and Salem Unit 2 SR 4.4.11.1, to a new program in TS 6.8.4.k; and (3) delete the augmented inservice inspection program requirements for the steam generator channel heads currently contained in Salem Unit 1 SR 4.4.10.1.2.

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/

Richard B. Ennis, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-354, 50-272 and 50-311

Enclosures:

1. Amendment No. 186 to License No. NPF-57
2. Amendment No. 298 to License No. DPR-70
3. Amendment No. 281 to License No. DPR-75
4. Safety Evaluation

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