

LR-I20-0047

To: File

FROM: Paul R. Duke, Jr.
Licensing Manager

DATE: July 9, 2020

SUBJECT: Certification of Facility Operating Licenses Files Provided for Zero Emissions Credit (ZEC)

This memo is to provide certification that the attached copies of the Salem Unit 1, Salem Unit 2 and Hope Creek Facility Operating Licenses (FOLs) are the latest issued documents by the Nuclear Regulatory Commission (NRC) for the respective stations.

As of the date of this memo, the Salem Unit 1 FOL was current through the issuance of Amendment 334, the Salem Unit 2 FOL was current through the issuance of Amendment 315, and the Hope creek FOL was current through the issuance of Amendment 223.

The expiration dates of FOLs are listed in the following paragraphs of the respective FOLs:

- Salem Unit 1 FOL Paragraph 2.H, August 13, 2036
- Salem Unit 2 FOL Paragraph 2.M, April 18, 2040
- Hope Creek FOL Paragraph 2.H, April 11, 2046

JODY MORTARULO
NOTARY PUBLIC OF NEW JERSEY
Comm. # 2423578
My Commission Expires 8/3/2022



PSEG NUCLEAR LLC
EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

FACILITY OPERATING LICENSE

Renewed License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission) having found that:
 - A. The application for a renewed license, filed by PSEG Nuclear LLC acting on its own behalf and as agent for Exelon Generation Company, LLC (the licensees), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Salem Nuclear Generating Station, Unit No. 2 (facility) has been substantially completed in conformity with Construction Permit No. CPPR-53 and the application, as amended, the provisions of the Act and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this renewed operating license 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;
 - E. PSEG Nuclear LLC is technically qualified to engage in the activities authorized by this renewed operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. The licensees are financially qualified to engage in the activities authorized by this renewed license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - G. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - H. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public;
 - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Renewed Facility Operating License No. DPR-75 subject to the conditions

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for protection of the environment set forth herein is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;

- J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70; and
 - K. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1), and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by this renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations.
2. Pursuant to approval by the Nuclear Regulatory Commission at meetings on January 14, 1981, April 28, 1981, and May 19, 1981, the License for Fuel-Loading and Low-Power Testing issued on April 18, 1980 is superseded by Renewed Facility Operating License No. DPR-75 hereby issued to PSEG Nuclear LLC, and the Exelon Generation Company LLC (Exelon Generation Company), (the licensees), to read as follows:
- A. This renewed license applies to the Salem Nuclear Generating Station, Unit No. 2, a pressurized water nuclear reactor and associated equipment (the facility), owned by the licensees. The facility is located on the southern end of Artificial Island on the east bank of the Delaware River in Lower Alloways Creek Township in Salem County, New Jersey and is described in the Final Safety Analysis Report as supplemented and amended and the Environmental Report as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) PSEG Nuclear LLC, and the Exelon Generation Company to possess the facility at the designated location in Salem County, New Jersey, in accordance with the procedures and limitations set forth in the renewed license;
 - (2) PSEG Nuclear LLC, pursuant to Section 104b of the Act and 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," to possess, use and operate the facility at the designated location in Salem County, New Jersey, in accordance with the limitations set forth in this renewed license;
 - (3) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

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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. 315, 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.

Renewed License No. DPR-75
Amendment No. 315

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(10) Fire Protection

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, as approved in the NRC Safety Evaluation Report, dated November 20, 1979, and in its supplements, and in the NRC Safety Evaluation dated January 7, 2004, 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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ITEMS 11 THROUGH 25 DELETED

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(26) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 227 are hereby incorporated into this renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Additional Conditions.

(27) DELETED

(28) Exelon Generation Company shall provide to the Director of the Office of Nuclear Reactor Regulation a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from Exelon Generation Company to its direct or indirect parent, or to any other affiliated company, facilities for the production, transmission, or distribution of electric energy having a depreciated book value exceeding ten percent (10%) of Exelon Generation Company's consolidated net utility plant, as recorded on Exelon Generation Company's books of account.

(29) DELETED

(30) DELETED

(31) DELETED

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Amendment No. 314

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Amendment No. 314

(32) Mitigation Strategy

The licensee shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- a. Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel
- b. Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures
- b. Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

(33) Upon implementation of Amendment No. 269 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 4.7.6.2, in accordance with TS 6.17.c.(i), the assessment of CRE habitability as required by Specification 6.17.c. (ii), and the measurement of CRE pressure as required by Specification 6.17.d, shall be considered met. Following implementation:

- a. The first performance of SR 4.7.6.2, in accordance with Specification 6.17.c.(i), shall be within the specified frequency of 6 years, plus the 18 month allowance of SR 4.0.2, as measured from June 4,2003, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.

- b. The first performance of the periodic assessment of CRE habitability, Specification 6.17.c(ii), shall be 3 years, plus the 9 month allowance of SR 4.0.2, as measured from June 4, 2003, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - c. The first performance of the periodic measurement of CRE pressure, Specification 6.17.d, shall be within 18 months, plus the 138 days allowed by SR 4.0.2, as measured from September 22, 2005, the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.
- (34) PSEG Nuclear LLC may make changes to the programs and activities described in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, provided PSEG Nuclear LLC evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (35) Appendix A of NUREG-2101, "Safety Evaluation Report Related to the License Renewal of Salem Nuclear Generating Station," dated June 2011, and PSEG Nuclear LLC UFSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised on May 18, 2011, describe certain future programs and activities to be completed before the period of extended operation. PSEG Nuclear LLC shall complete these activities no later than April 18, 2020, and shall notify the NRC in writing when implementation of these activities is complete.
- (36) All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC. Changes to the withdrawal schedule or storage requirements shall be submitted to the NRC as a report in accordance with 10 CFR 50.4.
- (37) Concurrent with the first use of the chilled water cross-tie as allowed by Technical Specification 3.7.10c, PSEG shall confirm the required performance of the chilled water system cross-tie.
- D. An exemption from certain requirements of Appendix J to 10 CFR Part 50 is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 4. This exemption was authorized by law and will not endanger life of property or the common defense and security and is otherwise in the public interest. The exemption, therefore, remains in effect. The granting of the exemption was authorized with the

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issuance of the License for Fuel-Loading and Low-Power Testing, dated April 18, 1980. The facility will operate, to the extent authorized herein, in conformity with the application as amended, the provisions of the Act, and the regulations of the Commission.

- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, submitted by letter dated May 19, 2006, are entitled: "Salem-Hope Creek Nuclear Generating Station Security Plan," "Salem-Hope Creek Nuclear Generating Station Security Training and Qualification Plan," and "Salem-Hope Creek Nuclear Generating Station Security Contingency Plan." The plans Contain Safeguards Information protected under 10 CFR 73.21.

PSEG Nuclear LLC shall fully implement and maintain in effect all provisions of the Commission-approved Cyber Security Plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Salem-Hope Creek CSP was approved by License Amendment No. 283 as supplemented by changes approved by License Amendment Nos. 285, 288, and 299.

- F. A temporary exemption from General Design Criterion 57 found in Appendix A to 10 CFR Part 50 is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 5, Section 6.2.3.1. This Exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. The exemption, therefore, is hereby granted and shall remain in effect through the first refueling outage as discussed in Section 6.2.3.1 of Supplement 5 to the Safety Evaluation Report. The granting of the exemption is authorized with the issuance of the Facility Operating License, dated May 20, 1981. The facility will operate, to the extent authorized herein, in conformity with the application as amended, the provisions of the Act, and the regulations of the Commission.
- G. This renewed license is subject to the following additional condition for the protection of the environment:

Before engaging in additional construction or operational activities which may result in an environmental impact that was not evaluated by the Commission, PSEG Nuclear LLC shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not evaluated, or that is significantly greater than that evaluated in the Final Environmental Statement or any addendum thereto, PSEG Nuclear LLC shall provide a written evaluation of such activities and obtain prior approval from the Director of Nuclear Reactor Regulation.

- H. If PSEG Nuclear LLC plans to remove or to make significant changes in the normal operation of equipment that controls the amount of radioactivity in effluents from the Salem Nuclear Generation Station, the NRC shall be notified in writing regardless of whether the change affects the amount of radioactivity in effluents.
- I. DELETED

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Amendment No. 299

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- J. The licensees shall immediately notify the Commission of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.
- K. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended to cover public liability claims.
- L. The licensee is authorized to defer certain eighteen-month surveillance items from the dates required by Technical Specifications 4.0.2(a) and 4.7.10.2(c). These surveillances shall be completed prior to startup following the first refueling outage. The provisions of Technical Specifications 4.0.2(b) and 4.7.10.2(c) are not changed. The affected items are identified in the Safety Evaluation accompanying Amendment No. 14 issued October 22, 1982 and this license change.
- M. This renewed license is effective as of the date of the issuance and shall expire at midnight April 18, 2040.

N. RELOCATED TECHNICAL SPECIFICATIONS

PSEG Nuclear LLC shall relocate certain technical specification requirements to licensee-controlled documents as described below. The location of these requirements shall be retained by the licensee.

- a. This license condition approves the relocation of certain technical specification requirements to licensee-controlled documents (UFSAR), as described in the licensee's applications with the staff's safety evaluation approval and Amendment No. as noted below:

<u>Licensee's Application</u>	<u>Safety Evaluations</u>	<u>Amendment Nos.</u>
September 25, 1996	January 30, 1997	172

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Implementation shall include the relocation of technical specifications requirements to the appropriate licensee-controlled document as identified in the licensee's application.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A – Technical Specifications
2. Appendix B – Environmental Protection Plan
3. Appendix C – Additional Conditions

Date of Issuance: June 30, 2011

Renewed License No. DPR-75