

10 CFR 50.80
10 CFR 50.90
10 CFR 72.50RS-21-039
JAFP-21-0017
NMP1L3387
TMI-21-014

March 25, 2021

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001Braidwood Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456, STN 50-457, and 72-73Byron Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454, STN 50-455, and 72-68Calvert Cliffs Nuclear Power Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-53 and DPR-69
NRC Docket Nos. 50-317 and 50-318Calvert Cliffs Nuclear Power Plant, Units 1 and 2
Independent Spent Fuel Storage Installation
Materials License No. SNM-2505
NRC Docket No. 72-08Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461 and 72-1046Dresden Nuclear Power Station, Units 1, 2 and 3
Facility Operating License No. DPR-2
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-10, 50-237, 50-249, and 72-37James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket Nos. 50-333 and 72-12LaSalle County Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373, 50-374, and 72-70

Limerick Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352, 50-353, and 72-65

Nine Mile Point Nuclear Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-63 and NPF-69
NRC Docket Nos. 50-220, 50-410, and 72-1036

Peach Bottom Atomic Power Station, Units 1, 2 and 3
Facility Operating License No. DPR-12
Subsequent Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-171, 50-277, 50-278, and 72-29

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254, 50-265, and 72-53

R.E. Ginna Nuclear Power Plant
Renewed Facility Operating License No. DPR-18
NRC Docket Nos. 50-244 and 72-67

Salem Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272, 50-311, and 72-48

Three Mile Island Nuclear Station, Unit 1
Renewed Facility License No. DPR-50
NRC Docket No. 50-289 and 72-77

Zion Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-39 and DPR-48
NRC Docket Nos. 50-295, 50-304, and 72-1037

Reference: Letter from J. Bradley Fewell, Exelon Generation Company, LLC to U.S. Nuclear Regulatory Commission – "Application for Order Approving License Transfers and Proposed Conforming License Amendments," dated February 25, 2021 (Proprietary Version - ML21056A619 and Non-Proprietary Version - ML21056A620)

Subject: Supplemental Information Regarding Application for Order Approving Transfers and Proposed Conforming License Amendments

By letter dated February 25, 2021 (Reference), and in accordance with Section 184 of the Atomic Energy Act of 1954, as amended (the "**Act**"), 10 CFR 50.80, 10 CFR 50.90, and 10 CFR 72.50, Exelon Generation Company, LLC ("**Exelon Generation**"), on behalf of itself and Exelon

Corporation, Exelon FitzPatrick, LLC ("**Exelon FitzPatrick, LLC**"), Nine Mile Point Nuclear Station, LLC ("**NMP LLC**"), R.E. Ginna Nuclear Power Plant, LLC ("**Ginna LLC**"), and Calvert Cliffs Nuclear Power Plant, LLC ("**Calvert LLC**") (collectively, "**Applicants**"), requested certain written consents related to a proposed transaction in which Exelon Corporation will transfer its 100% ownership of Exelon Generation to a newly-created subsidiary that will then be spun-off to Exelon Corporation shareholders, becoming Exelon Generation's new ultimate parent company, so that neither the new ultimate parent company nor Exelon Generation nor its subsidiaries will be affiliated with Exelon Corporation ("**Spin Transaction**").

As discussed in Enclosure 1, Attachment A, Section 2.0, "Detailed Description," of the Reference letter, Exelon Generation committed to submitting markups of each of the licenses for the facilities noted within approximately thirty days from submission of the Application. This commitment is also reiterated in Enclosure 12, "Summary of the Commitments," of the Reference letter.

Accordingly, this supplement provides the mark-ups of the proposed changes to each site's facility operating license and affected Technical Specifications pages in support of the Application dated February 25, 2021.

Exelon Generation has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the U.S. Nuclear Regulatory Commission in Enclosure 1, Attachment A, in the Reference letter. Exelon Generation has concluded that the information provided in this supplement to the Application does not affect the bases for concluding that the proposed license amendments do not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92. In addition, Exelon Generation has concluded that the information in this supplement does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendments.

These proposed changes have been reviewed and approved by the sites' Plant Operations Review Committee or compatible organization in accordance with each site's applicable process.

Enclosure 15 of the submittal includes markups of proposed changes to Facility Operating License (FOL) pages for Zion Nuclear Power Station, Units 1 and 2. The markups are depicted on FOL pages containing a DRAFT watermark since they represent the most recent pending changes to the FOLs for Zion, Units 1 and 2, as provided in an NRC letter dated November 26, 2019 (ML19228A129). This letter pertained to an Order approving the transfer of the licenses from ZionSolutions, LLC to Exelon Generation Company, LLC and issuance of conforming administrative license amendments. The pending changes to the FOLs are not scheduled to be issued and become effective until the transfer is consummated between ZionSolutions and **Exelon Generation**. By letter dated October 21, 2020 (ML20259A469), the NRC extended the effective date of the transfer Order through May 26, 2021. Therefore, since the transfer has not yet been consummated, the markups for Zion, Units 1 and 2, are shown on the pending FOL pages.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," subsection (b), Exelon Generation is notifying the Commonwealth of Pennsylvania and the States of Illinois, Maryland, New Jersey, and New York of this application for license amendments by transmitting a copy of this letter and enclosures to the designated State Officials.

There are no regulatory commitments contained in this submittal.

Please contact David P. Helker (Exelon Generation) at 610-765-5525 if you have any questions or require any additional information regarding this supplemental response.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 25th day of March 2021.

Respectfully,



David P. Helker
Sr. Manager, Licensing
Exelon Generation Company, LLC

Enclosures:

Enclosure 1 – Braidwood Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 2 – Byron Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 3 – Calvert Cliffs Nuclear Power Plant, Units 1 and 2 - Proposed Mark-ups of Facility Operating License, Technical Specifications Pages, and Special Nuclear Material License

Enclosure 4 – Clinton Power Station, Unit 1 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 5 – Dresden Nuclear Power Station, Units 1, 2, and 3 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 6 – James A. FitzPatrick Nuclear Power Plant - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 7 – LaSalle County Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 8 – Limerick Generating Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 9 – Nine Mile Point Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 10 – Peach Bottom Atomic Power Station, Units 1, 2 and 3 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 11 – Quad Cities Nuclear Power Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 12 – R.E Ginna Nuclear Power Plant - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 13 – Salem Generating Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License Pages

Enclosure 14 – Three Mile Island Nuclear Station, Unit 1 - Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

Enclosure 15 – Zion Nuclear Power Station, Units 1 and 2 - Proposed Mark-ups of Facility Operating License Pages

cc: (w/ Enclosures)

Regional Administrator - NRC Region I
Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Braidwood Station
NRC Senior Resident Inspector - Byron Station
NRC Senior Resident Inspector - Calvert Cliffs Nuclear Power Plant
NRC Senior Resident Inspector - Clinton Power Station
NRC Senior Resident Inspector - Dresden Nuclear Power Station
NRC Senior Resident Inspector - James A. FitzPatrick Nuclear Power Plant
NRC Senior Resident Inspector - LaSalle County Station
NRC Senior Resident Inspector - Limerick Generating Station
NRC Senior Resident Inspector - Nine Mile Point Nuclear Station
NRC Senior Resident Inspector - Peach Bottom Atomic Power Station
NRC Senior Resident Inspector - Quad Cities Nuclear Power Station
NRC Senior Resident Inspector - R. E. Ginna Nuclear Power Plant
NRC Senior Resident Inspector - Salem Generating Station
NRC Project Manager, NMSS - Three Mile Island Nuclear Station
NRC Project Manager, NMSS - Zion Nuclear Power Station
NRC Project Manager, NRR - Exelon Generation Fleet
Illinois Emergency Management Agency - Division of Nuclear Safety
Director, Bureau of Radiation Protection - Pennsylvania Department of
Environmental Resources

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cc: continued (w/ Enclosures)

W. DeHaas - Pennsylvania Bureau of Radiation Protection
S. Seaman - State of Maryland
P. Mulligan - New Jersey Bureau of Nuclear Engineering
A. L. Peterson, NYSERDA
B. Frymire, NYSPSC

Enclosure 1

Braidwood Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. STN 50-456

BRAIDWOOD STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-72

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a renewed license filed by the applicant* 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 Braidwood Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-132 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 (except as exempted from compliance in Section 2.D below);
 - 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 (except as exempted from compliance in Section 2.D. below);
 - E. ~~Exelon Generation Company, LLC~~ is technically 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;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

* The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed [SPINCO].

Renewed License No. NPF-72

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. 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. NPF-72, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;
 - I. 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
 - J. 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 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. Facility Operating License No. NPF-72, dated July 2, 1987, as amended, is hereby superseded by Renewed Facility Operating License No. NPF-72, issued to ~~Exelon Generation Company, LLC~~ (the licensee) to read as follows:
- A. This renewed license applies to Braidwood Station, Unit 1, a pressurized water reactor, and associated equipment (the facility), owned by the licensee. The facility is located in north-eastern Illinois, 3 miles southwest of the Kankakee River, 20 miles south-southwest of the town of Joliet, and 60 miles southwest of Chicago, Illinois. The facility is within Reed Township, Will County, Illinois, and is described in the Byron/Braidwood Stations' Final Safety Analysis Report, as supplemented and amended, and in the Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) ~~Exelon Generation Company, LLC (EGC)~~, pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the above designated location in Will County, Illinois, in accordance with the procedures and limitations set forth in this renewed license;

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- 3 -

- (2) ~~Exelon Generation Company~~, 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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- (3) ~~Exelon Generation Company~~, 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;

[SPINCO]

- (4) ~~Exelon Generation Company~~, 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

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- (5) ~~Exelon Generation Company~~, 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

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 218 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Renewed License No. NPF-72
Amendment No. 218

(3) Emergency Planning

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provision of 10 CFR Section 50.54(s)(2) will apply.

(4) Deleted.

(5) Deleted.

(6) Deleted.

(7) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 193, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

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(8) ~~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.

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(9) Deleted.

(10) Deleted.

(11) Deleted.

(12) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

(13) License Renewal License Conditions

- (a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by the Commitments applicable to Braidwood Unit 1 in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2" (SER) dated July 2015, is collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities applicable to Braidwood Unit 1 described in this Supplement provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (b) This License Renewal UFSAR Supplement, as revised per License Condition 13(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation.
 - 1. The licensee shall implement those new programs and enhancements to existing programs no later than April 17, 2026.
 - 2. The licensee shall complete those activities as noted in the Commitments applicable to Braidwood Unit 1 in this Supplement no later than April 17, 2026 or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
 - 3. The licensee shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

- (c) The flux thimble tube corrective actions, inspections, and replacements identified in the SER, Commitment No. 24, for Braidwood Units 1 and 2, shall be implemented in accordance with the schedule in the Commitment. Periodic eddy current testing/inspections of all flux thimble tubes shall be performed at least every two refueling outages, and the data shall be trended and retained in auditable form. A flux thimble tube shall not remain in service for more than two (2) operating fuel cycles without successful completion of eddy current testing for that thimble tube.

- (14) Adoption of 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems, and components for nuclear power plants"

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~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2, Class 3, and non-Code class SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in the license amendment No. 198, dated October 22, 2018.

The licensee

~~Exelon~~ will complete the updated implementation items listed in Attachment 1 of Exelon letter to NRC dated September 13, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- D. An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1938, issued October 8, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.
- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as supplemented and amended, and as approved in the SER dated November 1983 and its supplements, subject to the following provision:

The licensee 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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- F. Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualifications, 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Braidwood Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3", submitted by letter dated May 17, 2006.

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- Exelon Generation Company 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 Exelon Generation Company CSP was approved by License Amendment No. 168 and modified by License Amendment No. 185.
- G. Deleted
- H. The licensee 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.

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- I. This renewed license is effective as of the date of issuance and shall expire at midnight on October 17, 2046. In addition, Amendment 187 shall be implemented by March 16, 2016, and Amendment 188 shall be implemented prior to MODE 4 following the Fall 2016 refueling outage (i.e., A1R19).

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Appendices:

1. Appendix A - Technical Specifications (NUREG-1276)
2. Appendix B - Environmental Protection Plan
3. Appendix C - Additional Conditions

Date of Issuance: January 27, 2016



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. STN 50-457

BRAIDWOOD STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-77

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a renewed license filed by the applicant* 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 Braidwood Station, Unit 2 (the facility) has been completed in conformity with Construction Permit No. CPPR-133 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 (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this 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 (except as exempted from compliance in Section 2.D. below);
 - E. ~~Exelon Generation Company, LLC~~ is technically 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;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

[SPINCO]

[SPINCO]

* The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed [SPINCO].

Renewed License No. NPF-77

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- H. 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. NPF-77, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B to Renewed License No. NPF-72 issued January 27, 2016 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;
- I. 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
- J. 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 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.

[SPINCO]

2. Facility Operating License No. NPF-77, dated May 20, 1988, as amended, is hereby superseded by Renewed Facility Operating License No. NPF-77, issued to ~~Exelon Generation Company, LLC~~ (the licensee) to read as follows:

- A. This renewed license applies to Braidwood Station, Unit 2, a pressurized water reactor, and associated equipment (the facility), owned by the licensee. The facility is located in north-eastern Illinois, 3 miles southwest of the Kankakee River, 20 miles south-southwest of the town of Joliet, and 60 miles southwest of Chicago, Illinois. The facility is within Reed Township, Will County, Illinois, and is described in the Byron/Braidwood Stations' Final Safety Analysis Report, as supplemented and amended, and in the Environmental Report, as supplemented and amended.

[SPINCO]

- B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) ~~Exelon Generation Company, LLC~~, pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the above designated location in Will County, Illinois, in accordance with the procedures and limitations set forth in this renewed license;

Renewed License No. NPF-77

[SPINCO]

- (2) ~~Exelon Generation Company, 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;

[SPINCO]

- (3) ~~Exelon Generation Company, 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;

[SPINCO]

- (4) ~~Exelon Generation Company, 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

[SPINCO]

- (5) ~~Exelon Generation Company, 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. The 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

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 218 and the Environmental Protection Plan contained in Appendix B, both of which are attached to Renewed License No. NPF-72, dated January 27, 2016, are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Renewed License No. NPF-77
Amendment No. 218

(3) Emergency Planning

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provision of 10 CFR Section 50.54(s)(2) will apply.

(4) Deleted.

(5) Deleted.

(6) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 193, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

[SPINCO]

[SPINCO]

(7) ~~Exelon Generation Company, LLC~~, shall provide 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, LLC~~, 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, LLC's~~ books of account.

[SPINCO's]

[SPINCO's]

(8) Deleted.

(9) Deleted.

(10) Deleted.

(11) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

(12) License Renewal License Conditions

- (a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by the Commitments applicable to Braidwood Unit 2 in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2" (SER) dated July 2015, is collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities applicable to Braidwood Unit 2 described in this Supplement provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (b) This License Renewal UFSAR Supplement, as revised per License Condition 12(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation.
 - 1. The licensee shall implement those new programs and enhancements to existing programs no later than June 18, 2027.
 - 2. The licensee shall complete those activities as noted in the Commitments applicable to Braidwood Unit 2 in this Supplement no later than June 18, 2027 or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
 - 3. The licensee shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

- (c) The flux thimble tube corrective actions, inspections, and replacements identified in the SER, Commitment No. 24, for Braidwood Units 1 and 2, shall be implemented in accordance with the schedule in the Commitment. Periodic eddy current testing/inspections of all flux thimble tubes shall be performed at least every two refueling outages, and the data shall be trended and retained in auditable form. A flux thimble tube shall not remain in service for more than two (2) operating fuel cycles without successful completion of eddy current testing for that thimble tube.
- (d) The Braidwood Unit 2 reactor head closure stud hole location No. 35 will be repaired no later than June 18, 2027, or before the end of the last refueling outage prior to the period of extended operation (whichever occurs later), so that all 54 reactor head closure studs are operable and tensioned during the period of extended operation.

- (13) Adoption of 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems, and components for nuclear power plants"

[SPINCO]

~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2, Class 3, and non-Code class SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in the license amendment No. 198, dated October 22, 2018.

The licensee

~~Exelon~~ will complete the updated implementation items listed in Attachment 1 of Exelon letter to NRC dated September 13, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- D. An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1938, issued October 8, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.
- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as supplemented and amended, and as approved in the SER dated November 1983 and its supplements, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission, only if these changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

[SPINCO]

- F. ~~Exelon Generation Company~~ shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualifications, 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Braidwood Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 17, 2006.

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 168 and modified by License Amendment No. 185.

- G. Deleted
- H. The licensee 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.

¹ The training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- I. This renewed license is effective as of the date of issuance and shall expire at midnight on December 18, 2047. In addition, Amendment 187 shall be implemented by March 16, 2016, and Amendment 188 shall be implemented prior to MODE 4 following the Fall 2016 refueling outage (i.e., A1R19).

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Appendices:

1. Appendix A - Technical Specifications (NUREG-1276)
2. Appendix B - Environmental Protection Plan
3. Appendix C - Additional Conditions

Date of Issuance: January 27, 2016

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

- 5.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



APPENDIX B

[SPINCO]

TO FACILITY OPERATING LICENSE NOS. NPF-72 & NPF-77

~~EXELON GENERATION COMPANY, LLC~~

BRAIDWOOD STATION UNITS 1 & 2

DOCKET NOS. 50-456 AND 50-457

ENVIRONMENTAL PROTECTION PLAN

(NON-RADIOLOGICAL)

Enclosure 2

Byron Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. STN 50-454

BYRON STATION, UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for a renewed license filed by the applicant* complies with the standards and requirements of the Atomic Energy Act of 1954, as amend (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 Byron Station, Unit No. 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-130 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 (except as exempted from compliance in Section 2.D below);
 - 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 (except as exempted from compliance in Section 2.D below);
 - E. ~~Exelon Generation Company, LLC~~ is technically 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;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed [SPINCO].

Renewed License No. NPF-37

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- H. 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. NPF-37, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. 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.
- J. 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 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. Facility Operating License No. NPF-37, dated February 14, 1985, as amended, is hereby superseded by Renewed Facility Operating License No. NPF-37, issued to ~~Exelon Generation Company, LLC~~ (the licensee) to read as follows:

[SPINCO]

- A. This renewed license applies to the Byron Station, Unit No. 1, a pressurized water nuclear reactor, and associated equipment (the facility), owned by ~~Exelon Generation Company, LLC~~. The facility is located in north central Illinois within Rockvale Township, Ogle County, Illinois and is described in the licensee's "Updated Final Safety Analysis Report," as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.

[SPINCO]

- B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Exelon Generation Company, LLC~~:

[SPINCO]

- (1) Pursuant to Section 103 of the Act and 10 CFR Part 50 to possess, use and operate the facility at the designated location in accordance with the procedures and limitations set forth in this renewed license;

- (2) 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 Updated Final Safety Analysis Report, as supplemented and amended;
- (3) 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;
- (4) 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
- (5) 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. The 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

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 222 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Deleted.

(4) Deleted.

Renewed License No. NPF-37
Amendment No. 222

- (5) Deleted.
- (6) The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the licensee's Fire Protection Report, and as approved in the SER dated February 1987 through Supplement No. 8, subject to the following provision:

The licensee 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.

- (7) Deleted
- (8) Deleted.
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- (11) Deleted.
- (12) Deleted.
- (13) Deleted.
- (14) Deleted.
- (15) Deleted.
- (16) Deleted.
- (17) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

(18) ~~Exelon Generation Company, LLC~~ shall provide 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, LLC~~ 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, LLC's~~ consolidated net utility plant, as recorded on ~~Exelon Generation Company, LLC's~~ books of account.

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(19) Deleted.

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(21) Deleted.

(22) Mitigation Strategy License Condition

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

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(23) License Renewal License Conditions

(a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by the Commitments applicable to Byron Unit 1 in Appendix A of the

“Safety Evaluation Report Related to the License Renewal of Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2” (SER) dated July 2015, is collectively the “License Renewal UFSAR Supplement.” This Supplement is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities applicable to Byron Unit 1 described in this Supplement provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- (b) This License Renewal UFSAR Supplement, as revised per License Condition 23(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation.
1. The licensee shall implement those new programs and enhancements to existing programs no later than April 30, 2024.
 2. The licensee shall complete those activities as noted in the Commitments applicable to Byron Unit 1 in this Supplement no later than April 30, 2024 or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
 3. The licensee shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

(24) Adoption of 10 CFR 50.69, “Risk-informed categorization and treatment of structures, systems, and components for nuclear power plants”

[SPINCO]

~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2, Class 3, and non-Code class SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in the license amendment No. 204, dated October 22, 2018.

The licensee

~~Exelon~~ will complete the updated implementation items listed in Attachment 1 of Exelon letter to NRC dated September 13, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

D. The facility requires no exemptions from the requirements of 10 CFR Part 50.

E. ~~Exelon Generation Company~~ shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualifications, 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Byron Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 17, 2006.

[SPINCO]

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 175 and modified by License Amendment No. 191.

F. Deleted

G. The licensee 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.

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan

- H. This renewed license is effective as of the date of issuance and shall expire at midnight on October 31, 2044.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Appendices:

1. Appendix A – Technical Specifications
(NUREG-1113)
2. Appendix B – Environmental Protection
Plan
3. Appendix C - Additional Conditions

Date of Issuance: November 19, 2015



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. STN 50-455

BYRON STATION, UNIT NO. 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-66

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for a renewed license filed by the applicant* complies with the standards and requirements of the Atomic Energy Act of 1954, as amend (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 Byron Station, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-131 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 (except as exempted from compliance in Section 2.D. below);
 - 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 (except as exempted from compliance in Section 2.D. below);
 - E. ~~Exelon Generation Company, LLC~~ is technically 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;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

Renewed License No. NPF-66

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- H. 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. NPF-66, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B to Renewed License No. NPF-37, issued November 19, 2015, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. 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.
- J. 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 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. Facility Operating License No. NPF-66, dated January 30, 1987, as amended, is hereby superseded by Renewed Facility Operating License No. NPF-66, issued to ~~Exelon Generation Company, LLC~~ (the licensee) to read as follows:

[SPINCO]

- A. The renewed license applies to the Byron Station, Unit No. 2, a pressurized water reactor, and associated equipment (the facility), owned by ~~Exelon Generation Company, LLC~~. The facility is located in north central Illinois within Rockvale Township, Ogle County, Illinois and is described in the licensee's Updated Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.

[SPINCO]

[SPINCO]

- B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Exelon Generation Company, LLC~~:

- (1) Pursuant to Section 103 of the Act and 10 CFR Part 50 to possess, use and operate the facility at the designated location in accordance with the procedures and limitations set forth in this renewed license;

- (2) 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 Updated Final Safety Analysis Report, as supplemented and amended;
 - (3) 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;
 - (4) 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
 - (5) 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. The 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

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No. 222, and the Environmental Protection Plan contained in Appendix B, both of which were attached to Renewed License No. NPF-37, dated November 19, 2015, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Deleted.

(4) Deleted.

(5) Deleted.

(6) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

(7) ~~Exelon Generation Company, LLC~~, 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, LLC~~, 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, LLC's~~ books of account.

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(8) Deleted.

(9) Deleted.

(10) Deleted.

(11) Mitigation Strategy License Condition

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

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

(12) License Renewal License Conditions

- (a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by the Commitments applicable to Byron Unit 2 in Appendix A of the "Safety Evaluation Report Related to the License Renewal of Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2" (SER) dated July 2015, is collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities applicable to Byron Unit 2 described in this Supplement provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (b) This License Renewal UFSAR Supplement, as revised per License Condition 12(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation.
 - 1. The licensee shall implement those new programs and enhancements to existing programs no later than May 6, 2026.
 - 2. The licensee shall complete those activities as noted in the Commitments applicable to Byron Unit 2 in this Supplement no later than May 6, 2026, or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.
 - 3. The licensee shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

(13) Adoption of 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems, and components for nuclear power plants"

[SPINCO]

~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess

shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2, Class 3, and non-Code class SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in the license amendment No. 204, dated October 22, 2018.

The licensee

~~Exelon~~ will complete the updated implementation items listed in Attachment 1 of Exelon letter to NRC dated September 13, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- D. The facility requires no exemptions from the requirements of 10 CFR Part 50.

An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1916, issued March 4, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the licensee's Fire Protection Report and the licensee's letters dated September 23, 1986, October 23, 1986, November 3, 1986, December 12 and 15, 1986, and January 21, 1987, and as approved in the SER dated February 1982 through Supplement No. 8, subject to the following provision:

The licensee 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.

- F. ~~Exelon Generation Company~~ shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualifications, and safeguards contingency plans including amendments made

[SPINCO]

pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Byron Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 17, 2006.

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 175 and modified by License Amendment No. 191.

- G. Deleted
- H. The licensee 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.
- I. This renewed license is effective as of the date of issuance and shall expire at midnight on November 6, 2046.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Attachments:

- 1. Appendix A – Technical Specifications (NUREG-1113)
- 2. Appendix B – Environmental Protection Plan
- 3. Appendix C – Additional Conditions

Date of Issuance: November 19, 2015

¹ The training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

- 5.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



APPENDIX B
TO FACILITY OPERATING LICENSE NOS. NPF-37 & NPF-66
~~EXELON GENERATION COMPANY, LLC~~[SPINCO]
BYRON STATION UNITS 1 & 2
DOCKET NOS. 50-454 AND 50-455

ENVIRONMENTAL PROTECTION PLAN
(NON-RADIOLOGICAL)

Enclosure 3

Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Proposed Mark-ups of Facility Operating License, Technical Specifications Pages,
and Special Nuclear Material

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-00001

RENEWED FACILITY OPERATING LICENSE

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

EXELON GENERATION COMPANY, LLC[SPINCO]

DOCKET NO. 50-317

Renewed License No. DPR-53

1. The U.S. Nuclear Regulatory Commission (Commission), having previously made the findings set forth in License No. DPR-53 issued on July 31, 1974, has now found that:
 - A. The application to Renewed License No. DPR-53 filed by Baltimore Gas and Electric Company* 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, and all required notifications to other agencies or bodies have been duly made;
 - B. 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 the renewed license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the Calvert Cliffs Nuclear Power Plant, Unit 1 (facility), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - C. There is reasonable assurance: (i) that the activities authorized by this renewed 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 applicable regulations set forth in 10 CFR Chapter I, except as exempted from compliance;

*By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to Calvert Cliffs Nuclear Power Plant, LLC, was approved. By Order dated March 24, 2014, the transfer of the operating authority under this license to Exelon Generation Company, LLC was approved. **By Order dated [Month/Day/Year], a transaction was approved that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. Unless otherwise noted, references to "licensee" are to [SPINCO] as the operating licensee.**

- D. The Calvert Cliffs Nuclear Power Plant, LLC and ~~Exelon Generation, LLC~~**[SPINCO]** ~~** (Exelon Generation)~~ have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements";
 - E. The renewal of this license will not be inimical to the common defense and security or the health and safety of the public; and
 - F. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs, and considering available alternatives, the renewal of this license is in accordance with 10 CFR Part 51 and all applicable requirements have been satisfied.
2. On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-53, issued on July 31, 1974, is superseded by Renewed Facility Operating License No. DPR-53, which is hereby issued to Calvert Cliffs Nuclear Power Plant, LLC and ~~Exelon Generation~~**[SPINCO]** to read as follows:
- A. This license applies to the Calvert Cliffs Nuclear Power Plant, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by Calvert Cliffs Nuclear Power Plant, LLC. The facility is located in Calvert County, Maryland, and is described in the Final Safety Analysis Report (FSAR), 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) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," (a) Calvert Cliffs Nuclear Power Plant, LLC to possess, and (b) ~~Exelon Generation~~**[SPINCO]** to possess, use, and operate the facility at the designated location in Calvert County, Maryland, in accordance with the procedures and limitations set forth in this license;
 - (2) ~~Exelon Generation~~**[SPINCO]** 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, and described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) ~~Exelon Generation~~**[SPINCO]** 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;

****~~Exelon Generation~~[SPINCO]** is authorized to act for Calvert Cliffs Nuclear Power Plant, LLC and has exclusive responsibility and control over the physical possession, operation, and maintenance of the facility.

- (4) ~~Exelon Generation~~[SPINCO] pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) ~~Exelon Generation~~[SPINCO] 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 license is deemed to contain and is subject to the conditions set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act, and the rules, regulations, and orders of the Commission, now or hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

~~Exelon Generation~~[SPINCO] is authorized to operate the facility at steady-state reactor core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 337, are hereby incorporated into this license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Technical Specifications.

- (a) For Surveillance Requirements (SRs) that are new, in Amendment 227 to Facility Operating License No. DPR-53, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 227. For SRs that existed prior to Amendment 227, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 227.

(3) Additional Conditions

The Additional Conditions contained in Appendix C as revised through Amendment No. 327 are hereby incorporated into this license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Additional Conditions.

(4) Secondary Water Chemistry Monitoring Program

~~Exelon Generation~~[SPINCO] shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to quantify parameters that are critical to control points;
- c. Identification of process sampling points;
- d. Procedure for recording and management of data;
- e. Procedures defining corrective actions for off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events required to initiate corrective action.

(5) Mitigation Strategy

~~Exelon Generation~~**[SPINCO]** shall develop and maintain strategies for addressing large fires and explosions 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
- (c) Actions to minimize release to include consideration of:
 1. Water spray scrubbing
 2. Dose to onsite responders

(6) Risk-Informed Categorization and Treatment of Structures, Systems, and Components

~~Exelon~~**[SPINCO]** is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1,

RISC-2, RISC-3, and RISC-4 Structures, Systems, and Components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (AN0-2) passive categorization method to assess passive component risk for Class 2 and Class 3 and non-Class SSCs and their associated supports; the results of the non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009 for other external hazards except seismic; and the alternative seismic approach as described in Exelon's original submittal letter dated November 28, 2018, and all its subsequent associated supplements as specified in License Amendment No. 332 dated February 28, 2020.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- D. ~~Exelon Generation~~**[SPINCO]** 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 combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Calvert Cliffs Nuclear Power Plant Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 1" submitted May 19, 2006.

~~Exelon Generation~~**[SPINCO]** 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 licensee's CSP was approved by License Amendment No. 298 and modified by License Amendment No. 312.

- E. ~~Exelon Generation~~**[SPINCO]** shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated September 24, 2013; as supplemented by letters dated February 9, 2015, March 11, 2015, April 13, 2015, July 6, 2015, August 13, 2015, February 24, 2016, and April 22, 2016, and as approved in the NRC safety evaluation dated August 30, 2016. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), and the criteria listed below are satisfied.

(1) Risk-Informed Changes That May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment, NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

- (a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in- depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
- (b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than $1 \times 10^{-7}/\text{yr}$ for CDF and less than $1 \times 10^{-8}/\text{yr}$ for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Other Changes that May Be Made Without Prior NRC Approval

- (a) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3 elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for

which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- “Fire Alarm and Detection Systems” (Section 3.8);
- “Automatic and Manual Water-Based Fire Suppression Systems” (Section 3.9);
- “Gaseous Fire Suppression Systems” (Section 3.10); and,
- “Passive Fire Protection Features” (Section 3.11)

This license condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

(b) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee’s fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation dated August 30, 2016, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

- F. At the time of the next scheduled update to the FSAR required pursuant to 10 CFR 50.71(e)(4) following the issuance of this renewed license, ~~Exelon Generation~~**the licensee** shall update the FSAR to include the FSAR supplement submitted pursuant to 10 CFR 54.21(d), as amended and supplemented by the program descriptions in Appendix E to the Safety Evaluation Report, NUREG-1705. Until that FSAR update is complete, ~~Exelon Generation~~**the licensee** may make changes to the programs described in Appendix E without prior Commission approval, provided that the licensee evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- G. Any future actions listed in Appendix E to the Safety Evaluation Report, NUREG-1705, shall be included in the FSAR. ~~Exelon Generation~~**The licensee** shall complete these actions by July 31, 2014, except for the volumetric inspections of the control element drive mechanisms, which must be completed no later than 2029 for Unit 1 (Appendix E, Item 65).

- H. This renewed license is effective as of the date of issuance and shall expire at midnight on July 31, 2034.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:

Appendix A – Technical Specifications
Appendix B – Environmental Protection Plan (non-radiological) Technical Specifications
Appendix C – Additional Conditions

Date of Issuance: March 23, 2000

**CALVERT CLIFFS
NUCLEAR POWER PLANT
UNIT 1
LICENSE CONDITIONS**

**APPENDIX "C"
TO
LICENSE NO. DPR-53**

**ISSUED BY THE UNITED STATES
NUCLEAR REGULATORY COMMISSION**

Appendix C

Additional Conditions

Facility Operating License No. DPR-53

~~Exelon Generation Company, LLC [SPINCO]~~ (the **operating** licensee ~~or Company~~) and **Calvert Cliffs Nuclear Power plant, LLC (CCNPP, LLC or Company)** shall comply with the following conditions on the schedule noted below:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
227	Baltimore Gas and Electric Company (BGE) is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this Amendment shall include the relocation of these requirements to the appropriate documents as described in the licensee's application dated December 4, 1996, as supplemented by letters dated March 27, June 9, June 18, July 21, August 14, August 19, September 10, October 6, October 20, October 23, November 5, 1997, and January 12, January 28, and March 16, 1998, evaluated in the NRC staff's Safety Evaluation enclosed with this amendment.	This amendment is effective immediately and shall be implemented by August 31, 1998.
228	BGE is authorized to incorporate in the UFSAR certain changes regarding Main Steam Line Break, Steam Generator Tube Rupture, Seized Rotor, and Boron Dilution Analyses.	The updated UFSAR shall be implemented within 6 months after restart from the spring 1998 refueling outage.
237	The decommissioning trust agreement for Calvert Cliffs, Unit 1 at the time the license transfer to the licensee from BGE is effected, is subject to the following: (a) The decommissioning trust agreement must be in a form acceptable to the NRC.	To be implemented at time the license transfer to the licensee from BGE is effected.

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
	(b) With respect to the decommissioning trust funds, investments in the securities or other obligations of Constellation Energy Group, Inc. [HOLDCO] or its affiliates, successors, or assigns shall be prohibited. Except for investments tied to market indexes or other non-nuclear-sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.	
	(c) The decommissioning trust agreement must provide that no disbursements or payments from the trust shall be made by the trustee until the trustee has first given the NRC 30-days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the Director, Office of Nuclear Reactor Regulation.	
	(d) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30-days prior written notification to the Director, Office of Nuclear Reactor Regulation.	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
	(e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.	
237	<p>Company shall provide decommissioning funding assurance, to be held in decommissioning trusts for Calvert Cliffs Unit 1 upon the transfer of the license to Company, in an amount equal to or greater than the balance in the Calvert Cliffs Unit 1 decommissioning trusts immediately prior to the transfer. In addition, Company shall ensure that all contractual arrangements referred to in the application for approval of the transfer of this license to Company to obtain necessary decommissioning funds for Calvert Cliffs Unit 1 through a non-bypassable charge are executed and will be maintained until the decommissioning trust is fully funded, or shall ensure that other mechanisms that provide equivalent assurance of decommissioning funding in accordance with the Commission's regulations are maintained.</p> <p>Company shall take all necessary steps to ensure that the decommissioning trusts are maintained in accordance with the application for approval of the transfer of this license to Company, the requirements of the Order dated <u>June 30, 2000</u> approving the transfer, and the related safety evaluation.</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
246	This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) changes associated with the aircraft hazards analysis which was evaluated by the staff in the Safety Evaluation dated August 29, 2001.	Next update of the UFSAR
248	This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) changes associated with the loss of feedwater flow analysis which was evaluated by the staff in the safety evaluation dated February 26, 2002.	Next update of the UFSAR
267	This amendment requires the licensee develop a long-term coupon surveillance program for the Carborundum samples. This program must verify that the Carborundum degradation rates assumed in the licensee's analyses to prove subcriticality, as required by 10 CFR 50.68, remain valid over the seventy-year life span of the Unit 1 spent fuel pool. The licensee must submit this modified coupon surveillance program to the NRC under the 10 CFR 50.90 requirements for its review and approval.	3 years after approval of this amendment

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
287	<p>Upon implementation of Amendment No. 287 adopting TSTF-448, Revision 3, the determination of Control Room envelope unfiltered air inleakage as required by Surveillance Requirement (SR) 3.7.8.4 in accordance with Technical Specification 5.5.17c(i), and the assessment of Control Room envelope habitability as required by Technical Specification 5.5.17.c(ii) shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.8.4 in accordance with Technical Specification 5.5.17c(i), shall be within the specified Frequency of 6 years (plus the 18 month allowance of SR 3.0.2) as measured from December 13, 2004, the date of the most successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.</p> <p>(b) The first performance of the periodic assessment of Control Room envelope habitability per Technical Specification 5.5.17c(ii) shall be within the next 9 months, because the time period since the most recent successful tracer gas test (December 13, 2004) is greater than 3 years.</p>	<p>Within 60 days following completion of the installation and testing of the plant modifications described in Amendment No. 281 issued on August 29, 2007.</p>
295	<p>CCNPP, LLC may no longer rely exclusively on an external sinking fund as its decommissioning funding assurance mechanism and will be required to implement an alternate decommissioning funding assurance mechanism, acceptable per NRC requirements outlined in 10 CFR 50.75(e)(1), which will be used to provide decommissioning funding assurance.</p>	<p>To be implemented at time the license transfer to the licensee from CCNPP, Inc. is effected.</p>
297	<p>For the Asymmetric Steam Generator Transient analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.8, the methodology shall be revised to capture the asymmetric core inlet temperature distribution and application of local peaking augmentation factors. The revised methodology shall be applied to Calvert Cliffs Unit 1 core reload designs starting with Cycle 21.</p>	<p>This amendment is effective immediately and shall be implemented within 60 days of completion of the Unit 1 2012 refueling outage.</p>

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>For the Seized Rotor Event analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.8, the methodology shall be revised to capture the asymmetric core inlet flow distribution. The revised methodology shall be applied to Calvert Cliffs Unit 1 core reload designs starting with Cycle 21.</p> <p>For the Control Element Assembly Ejection analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.11, the cycle-specific hot zero power peak average radial fuel enthalpy is calculated based on a modified power dependent insertion limit with Control Element Assembly Bank 3 assumed to be fully inserted (only in the analysis, not in actual plant operations). This revised methodology shall be applied to Calvert Cliffs Unit 1 core reload designs starting with Cycle 21.</p> <p>The Small Break Loss of Coolant Accident performed in accordance with the methodology of Technical Specification 5.6.5.b.9 shall be analyzed using a break spectrum with augmented detail related to break size. This revised methodology shall be applied to Calvert Cliffs Unit 1 core reload designs starting with Cycle 21.</p> <p>Core Operating Limits Report Figures 3.1.6, 3.2.3, and 3.2.5 shall not be changed without prior NRC review and approval until an NRC-accepted generic, or Calvert Cliffs-specific, basis is developed for analyzing the Control Element Assembly Rod Bank Withdrawal Event, the Control Element Assembly Drop, and the Control Element Assembly Ejection (power level-sensitive transients) at full power conditions only.</p> <p>Approval of the use of S-RELAP5 (Technical Specification 5.6.5.b.8) is restricted to only those safety analyses that confirm acceptable transient performance relative to the specified acceptable fuel design limits. Prior transient specific NRC approval is required to analyze transient performance relative to reactor coolant pressure boundary integrity until NRC approval is obtained for a generic or Calvert Cliffs-specific basis for the use of the methodology in Technical Specification 5.6.5.b.8 to demonstrate reactor coolant pressure boundary integrity.</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>For the RODEX2-based fuel thermal-mechanical design analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.3, Calvert Cliffs Unit 1 core reload designs (starting with Cycle 21) shall satisfy the following criteria:</p> <ol style="list-style-type: none">Predicted rod internal pressure shall remain below the steady state system pressure.The linear heat generation rate fuel centerline melting safety limit shall remain below 21.0 KW/ft. <p>For the Control Element Assembly Ejection analysis, Calvert Cliffs Unit 1 core reloads (starting with Cycle 21) shall satisfy the following criteria:</p> <ol style="list-style-type: none">Predicted peak radial average fuel enthalpy when calculated in accordance with the methodology of Technical Specification 5.6.5.b.11 shall remain below 200 cal/g.For the purpose of evaluating radiological consequences, should the SRELAP-5 hot spot model predict fuel temperature above incipient centerline melt conditions when calculated in accordance with the methodology of Technical Specification 5.6.5.b.8, a conservative radiological source term (in accordance with RG 1.183, Revision 0) shall be applied to the portion of fuel beyond incipient melt conditions (and combined with existing gap source term), and cladding failure shall be presumed. <p>The approval of the emergency core cooling system evaluation performed in accordance with the methodology of Technical Specification 5.6.5.b.7 shall be valid only for Calvert Cliffs Unit 1, Cycle 21. To remove this condition, Calvert Cliffs shall obtain NRC approval of the analysis of once- and twice-burned fuel for core designs following Unit 1 Cycle 21.</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
305	<p>1) The existing E.D.F. International S.A.S. Support Agreement of approximately \$145 million, dated November 6, 2009, may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. Calvert Cliffs Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause E.D.F. International S.A.S., or its successors and assigns, to void, cancel, or materially modify the E.D.F. International S.A.S. Support Agreement or cause it to fail to perform, or impair its performance under the E.D.F. International S.A.S. Support Agreement, without the prior written consent of the NRC. Exelon Generation shall inform the NRC in writing no later than 14 days after any funds are provided to or for the CENG subsidiary licensee under the E.D.F. International S.A.S. Support Agreement.Deleted</p>	<p>To be implemented at the time the license transfer to the licensee from CCNPP, LLC is effected.</p>

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

Amendment No.

Additional Conditions

Implementation Date

- 2) ~~Exelon Corporation~~**[SPINCO]** shall, no later than the ~~time the license transfers~~
~~occur~~**date the closing of the transaction approved on [MONTH/DAY/YEAR]**
occurs, enter into a Support Agreement of approximately \$~~245~~**126** million with the licensee. ~~The Exelon Corporation Support Agreement shall supersede the Support Agreement provided by Exelon Generation, dated March 12, 2012, in all respects and shall be consistent with the representations contained in the August 6, 2013 transfer application.~~ Calvert Cliffs Nuclear Power Plant, LLC, **or** CENG, ~~or Exelon Generation~~ shall not take any action to cause ~~Exelon Corporation~~**[SPINCO]**, or its successors and assigns, to void, cancel, or materially modify the ~~Exelon Corporation~~**[SPINCO]** Support Agreement or cause it to fail to perform, or impair its performance under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement, without the prior written consent of the NRC. The ~~Exelon Corporation~~**[SPINCO]** Support Agreement may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. An executed copy of the ~~Exelon Corporation~~**[SPINCO]** Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction ~~and license transfers~~. ~~Exelon Generation~~**[SPINCO]** shall inform the NRC in writing no later than 14 days after any funds are provided to or for the licensee under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement.

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>3) Exelon Corporation shall, no later than the time the license transfers occur, provide a parent guarantee in the amount of \$165 million to ensure a source of funds for the Ginna, Calvert Cliffs 1 and 2, and/or Nine Mile Point 1 and 2 in the event that the existing cash pool between the Owner-Licensees and CENG is insufficient to cover operating costs. The existing CENG cash pool arrangement shall be consistent with the representations contained in the 2009 Transfer Application dated January 22, 2009 (ADAMS Accession No. ML090290101). Calvert Cliffs Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause Exelon Corporation, or its successors and assigns, to void, cancel or materially modify the parent guarantee or cause it to fail to perform, or impair its performance under the parent guarantee without the prior written consent of the NRC.Deleted.</p>	
	<p>4) Within 14 days of the license transfersclosing of the transaction approved on [MONTH/DAY/YEAR], Exelon Generation[SPINCO] shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated August 6, 2013February 25, 2021. Section 7.1 of the Nuclear Operating Services Agreement may not be modified in any material respect related to financial arrangements that would adversely impact the ability of the licensee to fund safety-related activities authorized by the license without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.</p>	
	<p>5) Within 10 days of the license transfers, Exelon Generation shall submit to the NRC the amended CENG Operating Agreement reflecting the terms set forth in the application dated August 6, 2013. The amended and restated Operating Agreement may not be modified in any material respect concerning decisionmaking authority over safety, security and reliability without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.Deleted</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	6) At least half the members of the CENG Board of Directors must be U.S. citizens. Deleted	
	7) The CENG Chief Executive Officer, Chief Nuclear Officer, and Chairman of the CENG Board of Directors must be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure that the business and activities of CENG with respect to the facility's license are at all times conducted in a manner consistent with the public health and safety and common defense and security of the United States. Deleted	
	8) Deleted	
	9) Deleted	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-53

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
318	<p>(1) Before achieving full compliance with 10 CFR 50.48(c), risk informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in License Condition 2.E.(2)(b).</p> <p>(2) The licensee shall complete the modifications to its facility as described in Table S-2, "Plant Modifications Committed," of licensee letter dated April 22, 2016, to complete the transition to full compliance with 10 CFR 50.48(c) by April 30, 2018. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.</p> <p>(3) The licensee shall implement the items listed in Enclosure 1, Attachment S, Table S-3, "Implementation Items," from licensee letter dated April 22, 2016 within 12 months after NRC approval unless that implementation date falls within a scheduled refueling outage. Then, implementation will occur 60 days after startup from that scheduled refueling outage. It should be noted that implementation item IMP-12 is associated with incorporation of the NFPA 805 modification and the completion of this implementation item is an on-going action initiated within the 180 day timeframe for completion of implementation items but only complete after completion of modification implementation per Table S-2.</p>	April 30, 2018

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

- 5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-00001

RENEWED FACILITY OPERATING LICENSE

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

EXELON GENERATION COMPANY, LLC[SPINCO]

DOCKET NO. 50-318

Renewed License No. DPR-69

1. The U.S. Nuclear Regulatory Commission (Commission), having previously made the findings set forth in License No. DPR-69 issued on November 30, 1976, has now found that:
 - A. The application to Renewed License No. DPR-69 filed by Baltimore Gas and Electric Company* 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, and all required notifications to other agencies or bodies have been duly made;
 - B. 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 the renewed license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the Calvert Cliffs Nuclear Power Plant, Unit 2 (facility), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - C. There is reasonable assurance: (i) that the activities authorized by this renewed 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 applicable regulations set forth in 10 CFR Chapter I, except as exempted from compliance;

*By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to Calvert Cliffs Nuclear Power Plant, LLC, was approved. By Order dated March 24, 2014, the transfer of the operating authority under this license to Exelon Generation Company, LLC was approved. By Order dated [Month/Day/Year], a transaction was approved that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. Unless otherwise noted, references to "licensee" are to [SPINCO] as the operating licensee.

- D. The Calvert Cliffs Nuclear Power Plant, LLC and ~~Exelon Generation Company, LLC~~**[SPINCO]**** (~~Exelon Generation~~) have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements";
 - E. The renewal of this license will not be inimical to the common defense and security or the health and safety of the public; and
 - F. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs, and considering available alternatives, the renewal of this license is in accordance with 10 CFR Part 51 and all applicable requirements have been satisfied.
2. On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-69, issued on November 30, 1976, is superseded by Renewed Facility Operating License No. DPR-69, which is hereby issued to Calvert Cliffs Nuclear Power Plant, LLC and ~~Exelon Generation~~**[SPINCO]** to read as follows:
- A. This license applies to the Calvert Cliffs Nuclear Power Plant, Unit 2, a pressurized water reactor and associated equipment (the facility), owned by Calvert Cliffs Nuclear Power Plant, LLC. The facility is located in Calvert County, Maryland, and is described in the Final Safety Analysis Report (FSAR), 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) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," (a) Calvert Cliffs Nuclear Power Plant, LLC to possess, and (b) ~~Exelon Generation~~**[SPINCO]** to possess, use, and operate the facility at the designated location in Calvert County, Maryland, in accordance with the procedures and limitations set forth in this license;
 - (2) ~~Exelon Generation~~**[SPINCO]** 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, and described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) ~~Exelon Generation~~**[SPINCO]** 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;

~~Exelon Generation~~[SPINCO]** is authorized to act for Calvert Cliffs Nuclear Power Plant, LLC and has exclusive responsibility and control over the physical possession, operation, and maintenance of the facility.

- (4) ~~Exelon Generation~~[SPINCO] pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, in amounts as required, any byproduct, source, and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) ~~Exelon Generation~~[SPINCO] 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 license is deemed to contain and is subject to the conditions set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act, and the rules, regulations, and orders of the Commission, now and hereafter applicable; and is subject to the additional conditions specified and incorporated below:

(1) Maximum Power Level

~~Exelon Generation~~[SPINCO] is authorized to operate the facility at reactor steady-state core power levels not in excess of 2737 megawatts-thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 315 are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

- (a) For Surveillance Requirements (SRs) that are new, in Amendment 201 to Facility Operating License No. DPR-69, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 201. For SRs that existed prior to Amendment 201, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 201.

(3) Less Than Four Pump Operation

The licensee shall not operate the reactor at power levels in excess of five (5) percent of rated thermal power with less than four (4) reactor coolant pumps in operation. This condition shall remain in effect until the licensee has submitted safety analyses for less than four pump operation, and approval for such operation has been granted by the Commission by amendment of this license.

(4) Environmental Monitoring Program

If harmful effects or evidence of irreversible damage are detected by the biological monitoring program, hydrological monitoring program, and the

radiological monitoring program specified in the Appendix B Technical Specifications, ~~Exelon Generation~~[SPINCO] (the licensee) will provide to the staff a detailed analysis of the problem and a program of remedial action to be taken to eliminate or significantly reduce the detrimental effects or damage.

(5) Additional Conditions

The Additional Conditions contained in Appendix C as revised through Amendment No. 305 are hereby incorporated into this license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Additional Conditions.

(6) Secondary Water Chemistry Monitoring Program

~~Exelon Generation~~[SPINCO] shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:

- a. Identification of a sampling schedule for the critical parameters and control points for these parameters;
- b. Identification of the procedures used to quantify parameters that are critical to control points;
- c. Identification of process sampling points;
- d. Procedure for recording and management of data;
- e. Procedures defining corrective actions for off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events required to initiate corrective action.

(7) Mitigation Strategy

~~Exelon Generation~~[SPINCO] shall develop and maintain strategies for addressing large fires and explosions 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

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(8) Risk-Informed Categorization and Treatment of Structures, Systems, and Components

~~Exelon~~ **[SPINCO]** is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 Structures, Systems, and Components (SSCs) using:

Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (AN0-2) passive categorization method to assess passive component risk for Class 2 and Class 3 and non-Class SSCs and their associated supports; the results of the non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009 for other external hazards except seismic; and the alternative seismic approach as described in Exelon's original submittal letter dated November 28, 2018, and all its subsequent associated supplements as specified in License Amendment No. 310 dated February 28, 2020.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- D. ~~Exelon Generation~~ **[SPINCO]** 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Calvert Cliffs Nuclear Power Plant Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 1" submitted dated May 19, 2006.

~~Exelon Generation~~ **[SPINCO]** 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 licensee's CSP was approved by License Amendment No. 275 and modified by License Amendment No. 290.

- E. ~~Exelon Generation~~**[SPINCO]** shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated September 24, 2013; as supplemented by letters dated February 9, 2015, March 11, 2015, April 13, 2015, July 6, 2015, August 13, 2015, February 24, 2016, and April 22, 2016, and as approved in the NRC safety evaluation dated August 30, 2016. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), and the criteria listed below are satisfied.

(1) Risk-Informed Changes That May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment, NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

- (a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
- (b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than $1 \times 10^{-7}/\text{yr}$ for CDF and less than $1 \times 10^{-8}/\text{yr}$ for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(2) Other Changes that May Be Made Without Prior NRC Approval

- (a) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering

evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3 elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8);
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9);
- "Gaseous Fire Suppression Systems" (Section 3.10); and,
- "Passive Fire Protection Features" (Section 3.11)

This license condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

(b) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation dated August 30, 2016, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

- F. At the time of the next scheduled update to the FSAR required pursuant to 10 CFR 50.71(e)(4) following the issuance of this renewed license, ~~Exelon~~ **Generationthe licensee** shall update the FSAR to include the FSAR supplement submitted pursuant to 10 CFR 54.21(d), as amended and supplemented by the program descriptions in Appendix E to the Safety Evaluation Report, NUREG-1705. Until that FSAR update is complete, ~~Exelon-Generationthe licensee~~ may make changes to the programs described in Appendix E without prior Commission approval, provided that the licensee evaluates each such change

pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- G. Any future actions listed in Appendix E to the Safety Evaluation Report, NUREG-1705, shall be included in the FSAR. **The licensee** shall complete these actions by August 13, 2016.
- H. This renewed license is effective as of the date of issuance and shall expire at midnight on August 13, 2036.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Attachments:

Appendix A – Technical Specifications
Appendix B – Environmental Protection Plan (non-radiological) Technical Specifications
Appendix C – Additional Conditions

Date of Issuance: March 23, 2000

**CALVERT CLIFFS
NUCLEAR POWER PLANT
UNIT 2
LICENSE CONDITIONS**

**APPENDIX "C"
TO
LICENSE NO. DPR-69**

**ISSUED BY THE UNITED STATES
NUCLEAR REGULATORY COMMISSION**

Appendix C

Additional Conditions

Facility Operating License No. DPR-69

Exelon Generation Company, LLC (the ~~operating~~ licensee ~~or Company~~) and Calvert Cliffs Nuclear Power Plant, LLC (CCNPP, LLC ~~or Company~~) shall comply with the following conditions on the schedule noted below:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
201	Baltimore Gas and Electric Company (BGE) is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the appropriate documents as described in the licensee's application dated December 4, 1996, as supplemented by letters dated March 27, June 9, June 18, July 21, August 14, August 19, September 10, October 6, October 20, October 23, November 5, 1997, and January 12, January 28, and March 16, 1998, evaluated in the NRC staff's Safety Evaluation enclosed with this amendment.	This amendment is effective immediately and shall be implemented by August 31, 1998.
202	BGE is authorized to incorporate certain changes in the UFSAR regarding Main Steam Line Break, Steam Generator Tube Rupture, Seized Rotor, and Boron Dilution Analyses.	The updated UFSAR shall be implemented within 6 months after restart from the spring 1999 refueling outage.
211	<p>The decommissioning trust agreement for Calvert Cliffs, Unit 2 at the time the license transfer to the licensee from BGE is effected, is subject to the following:</p> <p>(a) The decommissioning trust agreement must be in a form acceptable to the NRC.</p>	To be implemented at time the license transfer to the licensee from BGE is effected.

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
	(b) With respect to the decommissioning trust funds, investments in the securities or other obligations of Constellation Energy Group, Inc. [HOLDCO] or its affiliates, successors, or assigns shall be prohibited. Except for investments tied to market indexes or other non-nuclear-sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.	
	(c) The decommissioning trust agreement must provide that no disbursements or payments from the trust shall be made by the trustee until the trustee has first given the NRC 30-days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the Director, Office of Nuclear Reactor Regulation.	
	(d) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30-days prior written notification to the Director, Office of Nuclear Reactor Regulation.	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
211	<p>(e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.</p> <p>Company shall provide decommissioning funding assurance, to be held in decommissioning trusts for Calvert Cliffs Unit 2 upon the transfer of the license to Company, in an amount equal to or greater than the balance in the Calvert Cliffs Unit 2 decommissioning trusts immediately prior to the transfer. In addition, Company shall ensure that all contractual arrangements referred to in the application for approval of the transfer of this license to Company to obtain necessary decommissioning funds for Calvert Cliffs Unit 2 through a non-bypassable charge are executed and will be maintained until the decommissioning trust is fully funded, or shall ensure that other mechanisms that provide equivalent assurance of decommissioning funding in accordance with the Commission's regulations are maintained.</p> <p>Company shall take all necessary steps to ensure that the decommissioning trusts are maintained in accordance with the application for approval of the transfer of this license to Company, the requirements of the Order dated <u>June 30, 2000</u> approving the transfer, and the related safety evaluation.</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
221	This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) changes associated with the aircraft hazards analysis which was evaluated by the staff in the Safety Evaluation dated August 29, 2001.	Next update of the UFSAR
224	This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) changes associated with the loss of feedwater flow analysis which was evaluated by the staff in the safety evaluation dated February 26, 2002.	Next update of the UFSAR
264	<p>Upon implementation of Amendment No. 287 adopting TSTF-448, Revision 3, the determination of Control Room envelope unfiltered air inleakage as required by Surveillance Requirement (SR) 3.7.8.4 in accordance with Technical Specification 5.5.17c(i), and the assessment of Control Room envelope habitability as required by Technical Specification 5.5.17.c(ii) shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.8.4 in accordance with Technical Specification 5.5.17c(i), shall be within the specified Frequency of 6 years (plus the 18 month allowance of SR 3.0.2) as measured from December 13, 2004, the date of the most successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.</p> <p>(b) The first performance of the periodic assessment of Control Room envelope habitability per Technical Specification 5.5.17c(ii) shall be within the next 9 months, because the time period since the most recent successful tracer gas test (December 13, 2004) is greater than 3 years.</p>	Within 60 days following completion of the installation and testing of the plant modifications described in Amendment No. 281 issued on August 29, 2007.
271	CCNPP, LLC may no longer rely exclusively on an external sinking fund as its decommissioning funding assurance mechanism and will be required to implement an alternate decommissioning funding assurance mechanism, acceptable per NRC requirements outlined in 10 CFR 50.75(e)(1), which will be used to provide decommissioning funding assurance.	To be implemented at time the license transfer to the licensee from CCNPP, Inc. is effected.

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
273	<p>For the Asymmetric Steam Generator Transient analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.8, the methodology shall be revised to capture the asymmetric core inlet temperature distribution and application of local peaking augmentation factors. The revised methodology shall be applied to Calvert Cliffs Unit 2 core reload designs starting with Cycle 19.</p> <p>For the Seized Rotor Event analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.8, the methodology shall be revised to capture the asymmetric core inlet flow distribution. The revised methodology shall be applied to Calvert Cliffs Unit 2 core reload designs starting with Cycle 19.</p> <p>For the Control Element Assembly Ejection analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.11, the cycle-specific hot zero power peak average radial fuel enthalpy is calculated based on a modified power dependent insertion limit with Control Element Assembly Bank 3 assumed to be fully inserted (only in the analysis, not in actual plant operations). This revised methodology shall be applied to Calvert Cliffs Unit 2 core reload designs starting with Cycle 19.</p> <p>The Small Break Loss of Coolant accident performed in accordance with the methodology of Technical Specification 5.6.5.b.9 shall be analyzed using a break spectrum with augmented detail related to break size. This revised methodology shall be applied to Calvert Cliffs Unit 2 core reload designs starting with Cycle 19.</p> <p>Core Operating Limits Report Figures 3.1.6, 3.2.3, and 3.2.5 shall not be changed without prior NRC review and approval until an NRC-accepted generic, or Calvert Cliffs-specific, basis is developed for analyzing the Control Element Assembly Rod Bank Withdrawal Event, the Control Element Assembly Drop, and the Control Element Assembly Ejection (power level-sensitive transients) at full power conditions only.</p>	<p>This amendment is effective immediately and shall be implemented within 60 days of issuance.</p>

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>Approval of the use of S-RELAP5 (Technical Specification 5.6.5.b.8) is restricted to only those safety analyses that confirm acceptable transient performance relative to the specified acceptable fuel design limits. Prior transient specific NRC approval is required to analyze transient performance relative to reactor coolant pressure boundary integrity until NRC-approval is obtained for a generic or Calvert Cliffs-specific basis for the use of the methodology in Technical Specification 5.6.5.b.8 to demonstrate reactor coolant pressure boundary integrity.</p> <p>For the RODEX2-based fuel thermal-mechanical design analysis performed in accordance with the methodology of Technical Specification 5.6.5.b.3, Calvert Cliffs Unit 2 core reload designs (starting with Cycle 19) shall satisfy the following criteria:</p> <ol style="list-style-type: none">Predicted rod internal pressure shall remain below the steady state system pressure.The linear heat generation rate fuel centerline melting safety limit shall remain below 21.0 KW/ft. <p>For the Control Element Assembly Ejection analysis, Calvert Cliffs Unit 2 core reloads (starting with Cycle 19) shall satisfy the following criteria:</p> <ol style="list-style-type: none">Predicted peak radial average fuel enthalpy when calculated in accordance with the methodology of Technical Specification 5.6.5.b.11 shall remain below 200 cal/g.For the purpose of evaluating radiological consequences, should the S-RELAP5 hot spot model predict fuel temperature above incipient centerline melt conditions when calculated in accordance with the methodology of Technical Specification 5.6.5.b.8, a conservative radiological source term (in accordance with Regulatory Guide 1.183, Revision 0) shall be applied to the portion of fuel beyond incipient melt conditions (and combined with existing gap source term), and cladding failure shall be presumed.	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>The approval of the emergency core cooling system evaluation performed in accordance with the methodology of Technical Specification 5.6.5.b.7 shall be valid only for Calvert Cliffs Unit 2, Cycle 19. To remove this condition, Calvert Cliffs shall obtain NRC approval of the analysis of once- and twice-burned fuel for core designs following Unit 2 Cycle 19.</p>	
280	<p>For the period from January 26, 2013 through February 17, 2013, for Technical Specification 3.6.6, an OPERABLE "A" train of the Containment Cooling system consists of two operable containment cooling fans and coolers and the associated instruments and controls. An OPERABLE "B" train of the Containment Cooling system consists of one operable containment cooling fan and cooler and the associated instruments and controls.</p> <p>In addition, the following limitations must be met for each Containment Cooling train to be considered OPERABLE:</p> <ol style="list-style-type: none">(1) The Unit 2 RWT water temperature shall not exceed 80°F,(2) The Unit 2 containment average air temperature shall not exceed 95°F,(3) The Unit 2 initial containment pressure shall not exceed 1.0 psig, and(4) The saltwater inlet average water temperature shall not exceed 80°F.	<p>This amendment is effective immediately and shall be implemented by January 26, 2013</p>

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
283	<p>1) The existing E.D.F. International S.A.S. Support Agreement of approximately \$145 million, dated November 6, 2009, may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. Calvert Cliffs Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause E.D.F. International S.A.S., or its successors and assigns, to void, cancel, or materially modify the E.D.F. International S.A.S. Support Agreement or cause it to fail to perform, or impair its performance under the E.D.F. International S.A.S. Support Agreement, without the prior written consent of the NRC. Exelon Generation shall inform the NRC in writing no later than 14 days after any funds are provided to or for the CENG subsidiary licensee under the E.D.F. International S.A.S. Support Agreement.Deleted</p>	<p>To be implemented at the time the license transfer to the licensee from CCNPP, LLC is effected.</p>

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

Amendment No.

Additional Conditions

Implementation Date

- 2) ~~Exelon Corporation~~**[SPINCO]** shall, no later than the ~~time the license transfers~~
~~occur~~**date the closing of the transaction approved on [MONTH/DAY/YEAR]**
~~occurs~~, enter into a Support Agreement of approximately \$~~245-126~~ million with the licensee. ~~The Exelon Corporation Support Agreement shall supersede the Support Agreement provided by Exelon Generation, dated March 12, 2012, in all respects and shall be consistent with the representations contained in the August 6, 2013 transfer application.~~ Calvert Cliffs Nuclear Power Plant, LLC, ~~or CENG, or Exelon Generation~~ shall not take any action to cause ~~Exelon Corporation~~**[SPINCO]**, or its successors and assigns, to void, cancel, or materially modify the ~~Exelon Corporation~~**[SPINCO]** Support Agreement or cause it to fail to perform, or impair its performance under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement, without the prior written consent of the NRC. The ~~Exelon Corporation~~**[SPINCO]** Support Agreement may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. An executed copy of the ~~Exelon Corporation~~**[SPINCO]** Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction ~~and license transfers~~. ~~Exelon Generation~~**[SPINCO]** shall inform the NRC in writing no later than 14 days after any funds are provided to or for the licensee under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement.

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	<p>3) Exelon Corporation shall, no later than the time the license transfers occur, provide a parent guarantee in the amount of \$165 million to ensure a source of funds for the Ginna, Calvert Cliffs 1 and 2, and/or Nine Mile Point 1 and 2 in the event that the existing cash pool between the Owner-Licensees and CENG is insufficient to cover operating costs. The existing CENG cash pool arrangement shall be consistent with the representations contained in the 2009 Transfer Application dated January 22, 2009 (ADAMS Accession No. ML090290101). Calvert Cliffs Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause Exelon Corporation, or its successors and assigns, to void, cancel or materially modify the parent guarantee or cause it to fail to perform, or impair its performance under the parent guarantee without the prior written consent of the NRC.Deleted</p>	
	<p>4) Within 14 days of the license transfersclosing of the transaction approved on [MONTH/DAY/YEAR], Exelon Generation[SPINCO] shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated August 6, 2013February 25, 2021. Section 7.1 of the Nuclear Operating Services Agreement may not be modified in any material respect related to financial arrangements that would adversely impact the ability of the licensee to fund safety-related activities authorized by the license without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.</p>	
	<p>5) Within 10 days of the license transfers, Exelon Generation shall submit to the NRC the amended CENG Operating Agreement reflecting the terms set forth in the application dated August 6, 2013. The amended and restated Operating Agreement may not be modified in any material respect concerning decisionmaking authority over safety, security and reliability without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.Deleted</p>	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
	6) At least half the members of the CENG Board of Directors must be U.S. citizens. Deleted	
	7) The CENG Chief Executive Officer, Chief Nuclear Officer, and Chairman of the CENG Board of Directors must be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure that the business and activities of CENG with respect to the facility's license are at all times conducted in a manner consistent with the public health and safety and common defense and security of the United States. Deleted	
	8) Deleted	
	9) Deleted	

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

<u>Amendment No.</u>	<u>Additional Conditions</u>	<u>Implementation Date</u>
296	<p>(1) Before achieving full compliance with 10 CFR 50.48(c), risk informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in License Condition 2.E.(2)(b).</p> <p>(2) The licensee shall complete the modifications to its facility as described in Table S-2, "Plant Modifications Committed," of licensee letter dated April 22, 2016, to complete the transition to full compliance with 10 CFR 50.48(c) by April 30, 2018. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.</p> <p>(3) The licensee shall implement the items listed in Enclosure 1, Attachment S, Table S-3, "Implementation Items," from licensee letter dated April 22, 2016 within 12 months after NRC approval unless that implementation date falls within a scheduled refueling outage. Then, implementation will occur 60 days after startup from that scheduled refueling outage. It should be noted that implementation item IMP-12 is associated with incorporation of the NFPA 805 modification and the completion of this implementation item is an on-going action initiated within the 180 day timeframe for completion of implementation items but only complete after completion of modification implementation per Table S-2.</p>	April 30, 2018

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

- 5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, *Code of Federal Regulations*, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

Licensee

- | | | |
|---|--|--|
| 1. Calvert Cliffs Nuclear Power Plant, LLC
(Owner)
Exelon Generation Company, LLC , (Operator) | 3. License No. Renewed License SNM-2505 | |
| 2. 300 Exelon Way
Kennett Square, PA 19348 | Amendment No. 11 | |
| | 4. Expiration November 30, 2052 | |
| | 5. Docket or Reference No. 72-8 | |
| 6. Byproduct, Source, and/or Special Nuclear Material | 7. Chemical or Physical Form | 8. Maximum Amount That Licensee May Possess at Any One Time Under This License |
| A. Spent fuel assemblies from Calvert Cliffs Nuclear Station Units 1 and 2 reactor using natural water for cooling and enriched not greater than 5.0 percent U-235 and associated radioactive materials related to receipt, storage, and transfer of fuel assemblies. | A. As UO ₂ clad with zirconium or zirconium alloys. | A. 1,558.27 TeU of spent fuel assemblies. |

9. Authorized Use: For use in accordance with the conditions in this license and the attached Technical Specifications. The basis for this amendment was submitted in the application dated March 26, 2014, as supplemented July 25, October 10, and December 3, 2014, February 3, March 10, June 29, September 11, September 25, and November 17, 2015, and the Updated Safety Analysis Report (USAR) dated September 8, 2008, as supplemented September 9, 2010, September 18, 2012, November 12, 2014, and January 7, 2015.

The material identified in 6.A and 7.A above is authorized for receipt, possession, storage, and transfer.

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred, and stored at the Calvert Cliffs Independent Spent Fuel Storage Installation (ISFSI) located on the Calvert Cliffs Nuclear Power Plant site in Calvert County, Maryland. This site is described in Chapter 2 of the licensee's SAR for the Calvert Cliffs ISFSI.
11. The Technical Specifications contained in Appendix A attached hereto are incorporated into the license. ~~Exelon Generation~~ shall operate the installation in accordance with the Technical Specifications in Appendix A. [SPINCO]

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[SPINCO]

12. ~~Exelon Generation~~ shall fully implement and maintain in effect all provisions of the independent spent fuel storage installation physical security, guard training and qualification, and safeguards contingency plans previously approved by the Commission and all amendments made pursuant to the authority of 10 CFR 72.56, 10 CFR 72.44(e) and 72.186.

13. The Technical Specifications for Environmental Protection contained in Appendix A attached hereto are incorporated into the license.

Specifications required pursuant to 10 CFR 72.44(d), stating limits on the release of radioactive materials for compliance with limits of 10 CFR Part 20 and "as low as is reasonably achievable objective" for effluents are not applicable. Dry Shielded Canister (DSC) external surface contamination within the limits of Technical Specification 3.2.3.1 ensures that the offsite dose will be inconsequential. In addition, there are no normal or off-normal releases or effluents expected from the double-sealed storage canisters of the ISFSI.

Specifications required pursuant to 10 CFR 72.44(d)(1) for operating procedures, for control of effluents, and for the maintenance and use of equipment in radioactive waste treatment systems to meet the requirements of 10 CFR 72.104 are not applicable. There are, by the design of the sealed storage canisters at the ISFSI, no effluent releases. Also, all Calvert Cliffs site DSC and Transfer Cask (TC) loading and unloading operations and waste treatment there from will occur at the Calvert Cliffs Nuclear Power Plant under the specifications of its operating licenses.

14. The design, construction, and operation of the ISFSI shall be accomplished in accordance with the NRC regulations specified in Title 10 of the U.S. *Code of Federal Regulations*. All commitments to the applicable NRC Regulatory Guides and to engineering and construction codes shall be carried out.

15. The double closure seal welds at the bottom end of the DSC shall satisfy the Liquid Penetrant Acceptance Standards of ASME B&PV Code Section III, Division 1, Subsection NB-5350 (1983) for the NUHOMS-24P and NUHOMS-32P DSCs. The double closure seal welds at the bottom of the DSC shall satisfy the Liquid Penetrant Acceptance Standards of ASME B&PV Code Section III, 1, Subsection NB-5350 (1998 with addenda up to and including 1999) for the NUHOMS 32-PHB DSCs. The seal welds at the bottom of the NUHOMS-24P and NUHOMS-32P DSCs shall be leak tested in accordance with ANSI N14.5 (1987). For the NUHOMS-32PHB, the entire confinement boundary, including DSC shell and bottom cover plate, seal welds at bottom end of DSC, and longitudinal and circumferential DSC shell welds, shall undergo a fabrication leakage test in accordance with ANSI N14.5-1997; acceptance criterion shall be less than 1E-7 atm cc/sec helium.

16. Fuel and TC movement and handling activities which are to be performed in the Calvert Cliffs Nuclear Power Plant Auxiliary Building will be governed by the requirements of the ~~Exelon Generation~~ Facility Operating Licenses (DRP-53 and -69) and associated Technical Specifications.

[SPINCO]

17. Pursuant to 10 CFR 72.7, the licensee is hereby exempted from the provisions of 10 CFR 72.122(i) with respect to providing instrumentation and control systems for the DSC and HSM during storage operations.

18. Within 90 days after issuance of the license, the licensee shall submit an updated safety analysis report (USAR), and continue to update the SAR pursuant to the requirements in 10 CFR 72.70(b) and (c).

The USAR shall include Attachment 4 to the Response to Fourth Request for Additional Information for Renewal Application, "ISFSI Updated Safety Analysis Report Supplement and Changes" [Agency

NRC FORM 588A (10-2000) 10 CFR 72	U. S. NUCLEAR REGULATORY COMMISSION					
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Document (ADAMS) Accession Number ML14267A065] as documented in the supplemented License Renewal Application (hereinafter referred to as Attachment 4). The licensee may make changes to the USAR, including changes to Attachment 4, consistent with 10 CFR 72.48(c).

19. ~~Exelon Generation~~ shall update, revise or create, procedures for implementing the activities in the Aging Management Programs (AMPs) summarized in Attachment 4 within 180 day of the renewed license issuance. [SPINCO]

The licensee shall maintain procedures that implement the AMPs throughout the term of this license.

Each procedure for implementing the AMPs shall contain a reference to the specific AMP provision the procedure is intended to implement. The reference shall be maintained if procedures are modified.

Within 240 days of issuance of the renewed license, the licensee shall confirm, in a letter to the Commission (submitted pursuant to 10 CFR 72.4), that: the procedures for implementation of the activities as described in the AMPs summarized in Attachment 4 are in place, that the procedures will be maintained for the term of this license, and that appropriate references to the AMPs are provided in the procedures.

20. The licensee shall not remove (a) any structure, system or component (SSC) or subcomponent, or (b) any aging mechanism or aging effect, as detailed in Tables 9.6-1 through 9.6-4 in Attachment 4, from the scope of the AMPs.
21. With respect to the aging management activities for the Horizontal Storage Module (HSM), as described in the "HSM Aging Management Program" in Attachment 2 to the Response to Fourth Request for Additional Information for Renewal Application:
- (a) The licensee shall perform visual inspections of accessible exterior surfaces of the HSM concrete, including any exposed reinforcing steel and steel embedments. The inspections shall be performed at intervals not to exceed one year.
 - (b) The licensee shall perform visual inspections for a minimum of five targeted HSMs to be selected based on the results of the inspections per Condition 21(a). The targeted visual inspections shall be performed at intervals not to exceed every five years. The licensee shall evaluate for loss of intended function for inspection results meeting Tier 2 or Tier 3 acceptance criteria in ACI 349.3R-02.
 - (c) The licensee shall perform subsequent visual inspections of the interior surfaces of HSM-1 and HSM-15, first inspected in June 2012 [Agency Document (ADAMS) Accession Number ML12212A216], at intervals not to exceed every five years. These inspections will focus on the interior concrete and steel subcomponents, including the DSC support structure. The licensee shall evaluate for loss of intended function for inspection results meeting Tier 2 or Tier 3 acceptance criteria in ACI 349.3R-02.
 - (d) The licensee shall obtain groundwater chemistry samples representative of the HSM below-grade environment for a minimum of 3 locations at intervals not to exceed every five years. The licensee shall characterize these groundwater chemistry samples to monitor for an aggressive below-grade environment, as defined in ASME Code Section XI Subsection IWL.

22. ~~Exelon Generation~~ shall submit an evaluation of the results of the confirmatory evaluation related to high burnup fuel cladding performance specified in the "High Burnup Fuel Aging Management Program" in

[SPINCO]

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Attachment 2 to the Response to Fourth Request for Additional Information for Renewal Application, in a letter to the NRC (submitted pursuant to 10 CFR 72.4), by April 30, 2028. The evaluation shall include an assessment of the ability of stored high burnup fuel assemblies to continue to perform the intended function(s). If the licensee identifies fuel which is unable to perform the intended function(s), the licensee shall cease use of such cask or submit a license amendment request to modify this license condition.

23. With respect to the aging management activities for the Dry Shielded Canister (DSC), as described in the "DSC External Surfaces Aging Management Program" in Attachment 2 to the Response to Fourth Request for Additional Information for Renewal Application (hereinafter referred to as Attachment 2), the licensee must perform the inspections at intervals not to exceed 5 years:
- (a) The licensee shall perform DSC inspections on canisters that are determined to be most susceptible to aging effects. The licensee shall include DSC-6 in HSM-15 and DSC-11 in HSM-1 in inspections throughout the duration of the renewed license period. The licensee shall continue to obtain samples using method(s) that will allow DSC surface deposits to be collected and analyzed.
 - (b) The licensee shall perform inspections of DSC external surfaces using proven technology reasonably available at the time the inspection is conducted which is capable of meeting the physical access and environmental constraints of the HSM interior.
 - i. At a minimum, the licensee shall perform the inspection identified in the DSC External Surfaces Aging Management Program, as described Attachment 2, which identifies remote visual inspection using inspection equipment capable of meeting ASME Section XI Article IWA-2210 VT-3 standards to the extent allowed by the inspection equipment.
 - ii. For areas outside of the range capable of being inspected to VT-3 standards, the licensee shall inspect and document these areas to the best of the ability of the inspector.
 - (c) Remote visual inspections performed by the licensee shall include the surfaces identified in the DSC External Surfaces Aging Management Program, as described Attachment 2. The licensee shall evaluate the condition of the DSC shell at the support rail contact region based on the appearance of the visible regions immediately adjacent to the crevice location. Remote visual inspections will cover the DSC surface areas to the maximum extent practicable including;
 - i. The bottom end of the DSC visible from the HSM doorway opening including the grapple ring, and excluding areas obstructed by the seismic restraint and the sides of bottom shield plug where access is restricted by the small HSM doorway gap;
 - ii. The top cover including the closure weld and excluding areas obstructed by the HSM rail back stops;
 - iii. The DSC shell from and including the center circumferential weld (WJ-3) to the top end of the DSC (near the back wall of the HSM), including the longitudinal weld in this region (WJ-2) and excluding the portion of the shell obstructed by the HSM rails;
 - iv. The portion of the DSC shell from the center circumferential weld to the bottom end of the DSC (near the HSM doorway), including the longitudinal weld in this region (WJ-1) and excluding the portion of the shell obstructed by the HSM rails.

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(d) The licensee shall use inspection acceptance criteria defined in the Dry Shielded Canister (DSC) External Surfaces Aging Management Program included in Attachment 2 to the Response to Fourth Request for Additional Information for Renewal Application:

- i. Acceptable signifies that a component is free of significant deficiencies or degradation that could lead to the loss of intended function.
- ii. Acceptable with Defects signifies that a component contains deficiencies or degradation new or increased areas of pitting, crevice corrosion, or staining, compared to the baseline but will remain able to perform its design basis function until the next inspection.
- iii. Unacceptable signifies a component contains deficiencies or degradation that either prevents (or could prevent prior to the next inspection the ability to perform their intended function such as a positive identification of the presence of cracks on the DSC surface with length exceeding the requirements of ASME Section XI Table IWB-3514-2 acceptance criteria for surface examination of in-service austenitic steel components.
- iv. In the event of an inspection finding other than acceptable as described in (d)(i) above, the licensee shall issue a condition report in the site corrective action program to drive further evaluation, characterization, and other actions as needed to preserve the DSC intended functions. The cask may not develop through wall cracking or any other through wall breach that places the licensee out of compliance with 72.122(h)(5), and which the licensee is unable to, through corrective actions, return the DSC to its approved design basis. If the licensee identifies such through wall cracking or other through wall breach and is unable, through corrective actions, to return the DSC to its approved design basis, the licensee shall cease use of such cask or submit a license amendment request to modify this license condition.

This renewed license is effective as of the date of issuance shown below.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Steve Ruffin, Acting Chief
 Spent Fuel Licensing Branch
 Division of Spent Fuel Management
 Office of Nuclear Material Safety
 and Safeguards
 Washington, DC 20555

Date of Issuance: October 23, 2014

Amendment No. 11, April 26, 2016

Attachment: Technical Specifications

Enclosure 4

Clinton Power Station, Unit 1

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO 50-461

CLINTON POWER STATION, UNIT NO. 1

FACILITY OPERATING LICENSE

License No. NPF-62

1. The Nuclear Regulatory Commission (The Commission or the NRC) has found that:
 - A. The application for license filed by the applicant 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 Clinton Power Station, Unit No. 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-137 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 (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this 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 (except as exempted from compliance in Section 2.D below);
 - E. ~~Exelon Generation Company, LLC (Exelon Generation Company)~~ is technically qualified to engage in the activities authorized by this operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. ~~Exelon Generation Company~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

[SPINCO]

[SPINCO]

- G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-62, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;
- I. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70; and
- J. The receipt, production, possession, transfer, and use of Cobalt-60 as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Part 30.

2. Based on the foregoing findings regarding this facility, and pursuant to approval by the Nuclear Regulatory Commission at a meeting on April 10, 1987, Facility Operating License No. NPF-62, which supersedes the license for fuel loading and low power testing, License No. NPF-55, issued on September 29, 1986, is hereby issued to ~~Exelon Generation Company~~ to read as follows:

[SPINCO]

[SPINCO]

- A. This license applies to the Clinton Power Station, Unit No. 1, a boiling water nuclear reactor and associated equipment (the facility), owned by ~~Exelon Generation Company~~. The facility is located in Harp Township, DeWitt County, approximately six miles east of the city of Clinton in east-central Illinois and is described in the licensee's Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report-Operating License Stage, as supplemented and amended.

- B. Subject to the condition and requirements incorporated herein, the Commission hereby licenses:

[SPINCO]

- (1) ~~Exelon Generation Company~~, pursuant to section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the designated location in Harp Township, DeWitt County, Illinois, in accordance with the procedures and limitations set forth in this license;

- (2) Deleted

[SPINCO]

- (3) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Part 70, to receive, possess and to 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;

[SPINCO]

- (4) ~~Exelon Generation Company~~, pursuant to the Act and to 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;

[SPINCO]

- (5) ~~Exelon Generation Company~~, 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;

[SPINCO]

- (6) ~~Exelon Generation Company~~, 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; and

[SPINCO]

- (7) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 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:

[SPINCO]

(1) Maximum Power Level

~~Exelon Generation Company~~ is authorized to operate the facility at reactor core power levels not in excess of 3473 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

[SPINCO]

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 233, are hereby incorporated into this license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Antitrust Conditions

Deleted

(4) Control System Failures (Section 7.7.3.1, SER and SSER 6)*

Deleted

[SPINCO]

(5) New Fuel Storage (Section 9.1.1, SER, SSER 6 and SSER 7)

~~Exelon Generation Company~~ shall store new fuel assemblies in accordance with the requirements specified in Attachment 2. Attachment 2 is hereby incorporated into this license.

(6) Plant Operation Experience (Section 13.1.2.1, SSER 5)

Deleted

(7) Emergency Planning (Section 13.3, SSER 6)

Deleted

(8) Post-Fuel Loading Initial Test Program (Section 14, SER, SSER 5 and SSER 6)

Deleted

(9) Emergency Response Capabilities (Generic Letter 82-33, Supplement 1 to NUREG-0737, Section 7.5.3.1, SSER 5 and SSER 8, and Section 18, SER, SSER 5 and Safety Evaluation Dated April 17, 1987)

a. Deleted

b. 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.

License Transfer Conditions

- (10) Deleted.
- (11) Deleted.
- (12) Deleted.
- (13) Deleted.
- (14) Deleted
- (15) Deleted.
- (16) Deleted.
- (17) Deleted.
- (18) Deleted.
- (19) Deleted.
- (20) Deleted.
- (21) Deleted

(22) Mitigation Strategy License Condition

The licensee shall develop and maintain strategies for addressing large fires and explosions and that include the follow 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

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
 2. Dose to onsite responders
- (23) Upon implementation of Amendment No. 178 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.5, in accordance with TS 5.5.15.c.(i), the assessment of CRE habitability as required by Specification 5.5.15.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.15.d, shall be considered met. Following implementation:
- (a) The first performance of SR 3.7.3.5, in accordance with Specification 5.5.15.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 16, 2004, the date of the most recent successful tracer gas test, as stated in the February 8, 2005 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 5.5.15.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 16, 2004, the date of the most recent successful tracer gas test, as stated in the February 8, 2005 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 5.5.15.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.
- (24) At the time of the closing of the transfer of CPS and the respective license from AmerGen Energy Company, LLC (AmerGen) to Exelon Generation Company, AmerGen shall transfer to Exelon Generation Company ownership and control of AmerGen Clinton NQF, LLC, and AmerGen Consolidation, LLC shall be merged into Exelon Generation Consolidation, LLC. Also at the time of the closing, decommissioning funding assurance provided by Exelon Generation Company, using an additional method allowed under 10 CFR 50.75 if necessary, must be equal to or greater than the minimum amount calculated on that date pursuant to, and required by 10 CFR 50.75 for CPS. Furthermore, funds dedicated for CPS prior to closing shall remain dedicated to CPS following the closing. The name of AmerGen Clinton NQF, LLC shall be changed to Exelon Generation Clinton NQF, LLC at the time of the closing.

The NRC approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. The name change resulted in a corresponding name change for the Clinton NQF.

(25) Irradiated GE14i fuel bundles shall be stored at least four feet from the wall of the Spent Fuel Pool.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include: (a) an exemption from the requirements of 10 CFR 70.24 for the criticality alarm monitors around the fuel storage area; (b) an exemption from the requirement of 10 CFR Part 50, Appendix J – Option B, paragraph III.B, exempting the measured leakage rates from the main steam isolation valves from inclusion in the combined leak rate for local leak rate tests (Section 6.2.6 of SSER 6); and (c) an exemption from the requirements of paragraph III.B of Option B of 10 CFR Part 50, Appendix J, exempting leakage from the valve packing and the body-to-bonnet seal of valve 1E51-F374 associated with containment penetration 1MC-44 from inclusion in the combined leakage rate for penetrations and valves subject to Type B and C tests (SER supporting Amendment 62 to Facility Operating License No. NPF-62). The special circumstances regarding each exemption, except for item (a) above, are identified in the referenced section of the safety evaluation report and the supplements thereto.

[SPINCO] An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC Material License No. SNM-1886, issued November 27, 1985, and relieved the licensee from the requirement of having a criticality alarm system. ~~Exelon Generation Company~~ is hereby exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

[SPINCO] These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. The exemptions in items (b) and (c) above are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. ~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Clinton Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

[SPINCO] ~~Exelon Generation Company~~ 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).

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

The ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 194 and modified by License Amendment No. 206.

[SPINCO]

- F. ~~Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report as amended, for the Clinton Power Station, Unit No. 1, and as approved in the Safety Evaluation Report (NUREG-0853) dated February 1982 and Supplement Nos. 1 thru 8 thereto subject to the following provision:

The licensee

~~Exelon Generation Company~~ 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.

- G. Deleted.

[SPINCO]

- H. ~~Exelon Generation Company~~ 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.

- I. This license is effective as of the date of issuance and shall expire at midnight on April 17, 2027.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Attachments 1 (Deleted) and 2
2. Appendix A - Technical Specifications (NUREG-1235)
3. Appendix B - Environmental Protection Plan
4. Appendix C - Deleted

Date of Issuance: April 17, 1987

ATTACHMENT 1
TO NPF-62

Deleted

|

ATTACHMENT 2
TO NPF-62
NEW FUEL STORAGE

[SPINCO]



~~Exelon Generation Company~~ shall store new fuel assemblies in accordance with the following requirements. |

- a. No more than three fuel assemblies shall be outside their shipping containers, storage racks, or the reactor vessel at any one time.
- b. The minimum edge-to-edge distance between the group of three fuel assemblies and all other fuel assemblies shall be 12 inches.
- c. Fuel assemblies, when stored in the New Fuel Storage Vault, shall be stored such that: no more than 12 rows of fuel assemblies shall remain uncovered during the loading or unloading of fuel assemblies; metal covers shall cover all other rows containing fuel assemblies during loading and unloading of fuel assemblies; and when loading or unloading of fuel assemblies is not in progress, metal covers shall cover all rows of fuel assemblies.
- d. Fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.
- e. Fuel assemblies shall be stored in the containment fuel storage pool only under water.
- f. No fuel assemblies shall be stored in the control rod racks.
- g. All fire hoses servicing the New Fuel Storage Vault shall be equipped with solid stream nozzles.

April 17, 1987

APPENDIX C

ANTITRUST CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-62

Deleted

|

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



APPENDIX B

TO FACILITY LICENSE NO. NPF-62

CLINTON POWER STATION

UNIT NO. 1

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-461

ENVIRONMENTAL PROTECTION PLAN
(NON-RADIOLOGICAL)

April 17, 1987

Enclosure 5

Dresden Nuclear Power Station, Units 1, 2, and 3

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

~~EXELON GENERATION COMPANY, LLC [SPINCO]~~

DOCKET NO. 50-10

AMENDED FACILITY OPERATING LICENSE

Amendment No. 48
License No. DPR-2

1. The Atomic Energy Commission (the Commission) has found that:
 - A. The application, as amended, for license filed by the applicant* 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 and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Dresden Nuclear Power Station, Unit 1 has been substantially completed in conformity with Construction Permit No. CPPR-2 and the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - C. The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this 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 rules and regulations of the Commission;
 - E. ~~Exelon Generation Company, LLC~~**[SPINCO]** is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
 - F. ~~Exelon Generation Company, LLC~~**[SPINCO]** has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission regulations;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000. **The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- G. The issuance of this operating license will not be inimical to the common defense and security or to the health and safety of the public and does not involve a significant hazards consideration, and
 - H. The receipt, possession, and use of byproduct, source and special nuclear materials as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including Sections 30.33, 40.32, 70.23, and 70.31.
2. Facility Operating License No. DPR-2 issued ~~to Exelon Generation Company, LLC~~ **[SPINCO] LLC** (the licensee) is hereby amended in its entirety to read as follows:
- A. This license applies to Dresden Nuclear Power Station Unit 1 dual-cycle, boiling water reactor (herein the facility), owned by the licensee. The facility is located in Grundy County, Illinois, and is described in the application attested to on May 31, 1955, and subsequent amendments thereto, including the amendment dated May 17, 1973.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Exelon Generation Company, LLC~~ **[SPINCO]**:
 - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess and maintain but not to operate the facility at the designated location in Grundy County, Illinois, in accordance with the procedures and limitations set forth in the license;
 - (2) Pursuant to the Act and 10 CFR Part 70, to possess at any time special nuclear materials, not including plutonium, as reactor fuel, in accordance with the limitation for storage as described the Defueled Safety Analysis Report.
 - (3) Pursuant to the Act and 10 CFR Part 70, to possess at any time up to 6631 grams of plutonium utilized in previous operations of the facility.
 - (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess at any time any byproduct, source and special nuclear materials as sealed neutron sources and as fission detectors in amounts required, and to receive, possess and use sealed sources for reactor instrumentation and radiation monitoring equipment calibration.

- (5) 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 materials without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;
- (6) Pursuant to the Act and 10 CFR Parts 30 and 70, possess, but not separate, such byproduct and special nuclear materials which have been produced by the operation of the facility.

2.C This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter 1: 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; 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) Deleted

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 43, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Deleted

(4) Deleted

(5) Deleted

(6) Deleted

(7) ~~Exelon Generation Company, LLC~~[SPINCO] shall provide 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, LLC~~[SPINCO] 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, LLC's~~[SPINCO's] consolidated net utility plant, as recorded on ~~Exelon Generation Company, LLC's~~[SPINCO's] books of account.

(8) Deleted.

(9) Deleted.

(10) Deleted.

2.D *Renumbered. No new paragraph.*

2.E Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the following Commission approved documents, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). These approved documents consist of information withheld from public disclosure pursuant to 10 CFR 2.790(d):

- (1) "Security Plan for the Dresden Nuclear Power Station", dated November 18, 1977, as revised May 19, 1978, May 27, 1978, July 28, 1978 and February 19, 1979.
- (2) "Dresden Nuclear Power Station Safeguards Contingency Plan", dated March 1980, as revised June 27, 1980, submitted pursuant to 10 CFR 73.40. The Contingency Plan shall be fully implemented, in accordance with 10 CFR 73.40(b), within 30 days of this approval by the Commission.
- (3) "Dresden Nuclear Power Station Guard Training and Qualification Plan", submitted by letter, dated August 16, 1979, as revised by letter dated August 11, 1980. This Plan shall be fully implemented in accordance with 10 CFR 73.55(b)(4), within 60 days of this approval by the Commission. All security personnel shall be qualified within two years of this approval.

2.F Fire Protection

The Dresden Administrative Procedures specify the fire protection program. The Dresden Technical Requirements Manual specifies the limiting conditions for operation and surveillance requirements. These provisions are subject to the following:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not decrease the effectiveness of the fire protection capability.

- G. The licensee is authorized to chemically decontaminate the primary cooling system of Unit No. 1 using Dow Chemical Solvent NS-1. The waste generated by this decontamination shall be solidified and disposed of in an arid low-level waste-burial site authorized to accept chelated waste for burial.
- 3. This amended license is effective as of its date of issuance and shall expire at midnight, April 10, 2029.

FOR THE ATOMIC ENERGY COMMISSION

[Original signed by Karl R. Goller]

Karl R. Goller
Assistant Director
for Operating Reactors
Directorate of Licensing

Attachment:
Appendix A - Technical Specifications

Date of Issuance: July 8, 1997

EXELON GENERATION COMPANY, LLC[SPINCO]

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE NO. DPR-19

1. The U.S. Nuclear Regulatory Commission (Commission) having previously made the findings set forth in License No. DPR-19 issued on February 20, 1991, has now found that:
 - A. The application to renew License No. DPR-19 filed by the Exelon Generation Company, LLC* ~~(the licensee)~~ 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, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Dresden Nuclear Power Station, Unit 2 (the facility) has been completed in conformity with Construction Permit No. CPPR-18 and the application, as amended, the provisions of the Act, and the regulations of the Commission, and has been operating under a provisional license since December 22, 1969;
 - C. 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 Dresden Nuclear Power Station, Unit 2 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - D. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D below);

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000. **The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- E. 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 (except as exempted from compliance in Section 2.D below);
 - F. ~~Exelon Generation Company, LLC~~[SPINCO], is technically qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
 - G. ~~Exelon Generation Company~~[SPINCO] has 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 this Renewed Facility Operating License No. DPR-19 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed operating license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-19, issued February 20, 1991, is superseded by Renewed Facility Operating License No. DPR-19, which is hereby issued to ~~Exelon Generation Company, LLC~~ [SPINCO] to read as follows:
- A. This renewed operating license applies to the Dresden Nuclear Power Station, Unit 2, a boiling water reactor and associated equipment (the facility). The facility is located in Grundy County, Illinois, and is described in the licensee's Updated Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) ~~Exelon Generation Company, LLC~~[SPINCO] pursuant to Section 104b of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Grundy County, Illinois, in accordance with the procedures and limitations set forth in this renewed operating license;

- (2) ~~Exelon Generation Company, LLC, [SPINCO]~~ pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear materials as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
- (3) ~~Exelon Generation Company, LLC, [SPINCO]~~ 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;
- (4) ~~Exelon Generation Company, LLC, [SPINCO]~~ 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
- (5) ~~Exelon Generation Company, LLC, [SPINCO]~~ pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating 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; 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

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2957 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 272, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

- (3) Operation in the coastdown mode is permitted to 40% power.

Am. 272
10/23/20

- (4) The valves in the equalizer piping between the recirculation loop shall be closed at all times during reactor operation.
- (5) The licensee shall maintain the commitments made in response to the March 14, 1983, NUREG-0737 Order, subject to the following provision:

The licensee may make changes to commitments made in response to the March 14, 1983, NUREG-0737 Order without prior approval of the Commission as long as the change would be permitted without NRC approval, pursuant to the requirements of 10 CFR 50.59. Consistent with this regulation, if the change results in an Unreviewed Safety Question, a license amendment shall be submitted to the NRC staff for review and approval prior to implementation of the change.

(6) Surveillance Requirements

The Surveillance Requirements contained in Appendix A Technical Specifications and listed below are not required to be performed immediately upon implementation of Amendment No. 150:

- a. Surveillance Requirement 4.1.A.2 - RPS Logic System Functional Test
- b. Surveillance Requirement 4.2.A.2 - Primary & Secondary Containment Logic System Functional Test
- c. Surveillance Requirement 4.2.J.2 - Feedwater Pump Trip Logic System Functional Test
- d. Surveillance Requirement 4.6.F.1.b - Relief Valve Logic System Functional Test
- e. Surveillance Requirement 4.9.A.9 - Simultaneous Diesel Generator Start
- f. Surveillance Requirement 4.9.A.10 - Diesel Storage Tank Cleaning (Unit 3 and Unit 2/3 only)

Each of the above Surveillance Requirements shall be successfully demonstrated prior to entering into MODE 2 on the first plant startup following the fifteenth refueling outage (D2R15).

(7) Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 191, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Additional Conditions.

(8) Deleted

(9) Deleted

(10) ~~Exelon Generation Company, LLC~~**[SPINCO]** shall provide 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, LLC~~**[SPINCO]** 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, LLC's~~**[SPINCO's]** consolidated net utility plant, as recorded on ~~Exelon Generation Company, LLC's~~**[SPINCO's]** books of account.

(11) Deleted

(12) Deleted

(13) Deleted

(14) ~~Exelon Generation Company, LLC~~**The licensee** shall relocate certain Technical Specification requirements to ~~EGG~~**licensee**-controlled documents upon implementation of the Amendment No. 185. The items and appropriate documents are as described in Table LA, "Removal of Details Matrix," and Table R, "Relocated Specifications," that are attached to the NRC's Safety Evaluation enclosed with Amendment No. 185.

- (15) The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 185 shall be as follows:

For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of Amendment No. 185.

For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of Amendment No. 185.

For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of Amendment No. 185.

For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of Amendment No. 185.

- (16) Following implementation of Amendment No. 185, the reactor protection system trip setpoint for main steam isolation valve closure shall be maintained at the previous setpoint (less than or equal to 10% closed) until startup after the first outage of sufficient duration to change the setpoint.
- (17) The license is amended to authorize changing the UFSAR to allow credit for containment overpressure as detailed below, to assure adequate Net Positive Suction Head is available for low pressure Emergency Core Cooling System pumps following a design-basis accident.

From (sec)	To (sec)	Credit (psig)
Accident start	290	9.5
290	5,000	4.8
5,000	30,000	6.6
30,000	40,000	6.0
40,000	45,500	5.4
45,500	52,500	4.9
52,500	60,500	4.4
60,500	70,000	3.8
70,000	84,000	3.2
84,000	104,000	2.5
104,000	136,000	1.8
136,000	Accident end	1.1

NRC Ltr. (18) Mitigation Strategy License Condition
08/23/07

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 Training of response personnel
 - 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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

NRC Ltr. (19)
08/23/07

The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- Am. 226
03/20/08
- (20) Upon implementation of Amendment No. 226 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 3.7.4.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:
- (a) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.14.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from January 1997, 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 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from January 1997, 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 5.5.14.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.
- Am. 249
04/29/16
- (21) Upon implementation of Amendment No. 249 the licensee shall adhere to the following requirements as part of the DNPS unit 2 spent fuel pool coupon surveillance program to ensure that the B-10 areal density of the BORAL remains at or above its minimum credited value and that the regulatory requirement to maintain the Technical Specification value of $k_{eff} \leq 0.95$ continues to be met:
- 1. Ensure that coupon measurements of B-10 areal density are performed by a qualified laboratory;
 - 2. Ensure that the coupons are removed for evaluation every 10 years;
 - 3. Ensure that should any coupon be identified as failing the minimum certified B-10 areal density criterion based on coupon test results, ~~EGC~~ the licensee will perform in-situ testing to confirm that the minimum B-10 areal density (0.02 g/cm^2) is met for the BORAL panels installed in the DNPS spent fuel pools; and,

4. Submit a report to the NRC within 90 days following the completion of evaluations associated with Item 3 above. The report shall include; a description of the testing results, the assessments performed, and the interim and long-term corrective actions for abnormal indications.

- D. The facility has been granted certain exemptions from the requirements of Section III.G of Appendix R to 10 CFR Part 50, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979." This section relates to fire protection features for ensuring the systems and associated circuits used to achieve and maintain safe shutdown are free of fire damage. These exemptions were granted and sent to the licensee in letters dated February 2, 1983, September 28, 1987, July 6, 1989, and August 15, 1989.

In addition, the facility has been granted certain exemptions from Sections II and III of Appendix J to 10 CFR Part 50, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." This section contains leakage test requirements, schedules and acceptance criteria for tests of the leak-tight integrity of the primary reactor containment and systems and components which penetrate the containment. These exemptions were granted and sent to the licensee in a letter dated June 25, 1982.

These exemptions granted pursuant to 10 CFR 50.12 are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated March 22, 1978 with supplements dated December 2, 1980, and February 12, 1981; January 19, 1983; July 17, 1987; September 28, 1987; and January 5, 1989, subject to the following provision:

The licensee 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.

- NRC Ltr. 05/16/07 F. 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Dresden Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

~~Exelon Generation Company~~[SPINCO] 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 238 as modified by License Amendment No. 246.

- G. Deleted
- H. The licensee 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.

I. Updated Final Safety Analysis Report

The ~~Exelon Generation Company, LLC~~ Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. ~~The Exelon Generation Company, LLC~~The licensee shall complete these activities no later than December 22, 2009, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, ~~Exelon Generation Company, LLC~~the licensee may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ~~Exelon Generation Company, LLC~~the licensee evaluates such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- J. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of 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.

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

3. This renewed operating license is effective as of the date of issuance and shall expire at midnight on December 22, 2029.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A – Technical Specifications
2. Appendix B – Additional Conditions

Date of Issuance: October 28, 2004

EXELON GENERATION COMPANY, LLC[SPINCO]

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

RENEWED FACILITY OPERATING LICENSE NO. DPR-25

The U.S. Nuclear Regulatory Commission (Commission) having previously made the findings set forth in License No. DPR-25 issued on January 12, 1971, has now found that:

- a. The application to renew License No. DPR-25 filed by the Exelon Generation Company, LLC* ~~(the licensee)~~ 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, and all required notifications to other agencies or bodies have been duly made;
- b. 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 Dresden Nuclear Power Station, Unit 3 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
- c. The applicant* has submitted to the Commission all technical information required by Provisional Construction Permit No. CPPR-22, the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission to complete the application for a construction permit and facility license dated February 10, 1966, as supplemented by application for a facility license dated November 17, 1967 and amended by Amendment Nos. 8 through 24, dated August 30, 1968, November 21, 1968, February 28, 1969, March 18, 1969, April 16, 1969, May 20, 1969, July 2, 1969, July 22, 1969, August 5, 1969, August 8, 1969, August 10, 1969, August 18, 1969, September 2, 1969, October 16, 1969, May 7, 1970, August 11, 1970 and September 4, 1970, respectively, (the application); and supplemented by the applicant's letter dated December 17, 1970, and telegram dated December 18, 1970;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000. **The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- d. The Dresden Nuclear Power Station Unit 3 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-22, the application, the provisions of the Act and the rules and regulations of the Commission;
- e. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
- f. There is reasonable assurance: (i) that the facility can be operated at power levels not in excess of 2957 megawatts (thermal) in accordance with this license without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
- g. ~~Exelon Generation Company, LLC~~[SPINCO] is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
- h. ~~Exelon Generation Company, LLC~~[SPINCO] has furnished proof of financial protection to satisfy the requirements of 10 CFR Part 140;
- i. 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; and
- j. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. DPR-25 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-25, issued January 12, 1971, is superseded by Renewed Facility Operating License No. DPR-25, which is hereby issued to ~~Exelon Generation Company, LLC (EGC or the licensee)~~, [SPINCO] to read as follows:

- 1. This renewed operating license applies to the Dresden Nuclear Power Station, Unit 3, a single cycle, boiling, light water reactor and electric generating equipment (the facility). The facility is located at the Dresden Nuclear Power Station in Grundy County, Illinois, and is described in the "Safety Analysis Report," as supplemented and amended (Amendment Nos. 8 through 24).
- 2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Exelon Generation Company, LLC:
 - A. Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as

a utilization facility at the designated location at the Dresden Nuclear Power Station, in accordance with the procedures and limitations set forth in this renewed operating license;

- B. Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material, not including plutonium, 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 as of September 3, 1976;
- C. 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 materials as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts required;
- D. 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 and equipment calibration or associated with radioactive apparatus or components; and
- E. 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 Dresden Nuclear Power Station, Unit Nos. 1, 2, and 3.
- F. Surveillance Requirements

The Surveillance Requirements contained in Appendix A Technical Specifications and listed below are not required to be performed immediately upon implementation of Amendment No. 145:

- a. Surveillance Requirement 4.1.A.2 - RPS Logic System Functional Test
- b. Surveillance Requirement 4.2.A.2 - Primary & Secondary Containment Logic System Functional Test
- c. Surveillance Requirement 4.2.J.2 - Feedwater Pump Trip Logic System Functional Test
- d. Surveillance Requirement 4.6.F.1.b - Relief Valve Logic System Functional Test
- e. Surveillance Requirement 4.9.A.9 - Simultaneous Diesel Generator Start

f. Surveillance Requirement 4.9.A.10 - Diesel Storage Tank Cleaning
(Unit 3 and Unit 2/3 only)

Each of the above Surveillance Requirements shall be successfully demonstrated prior to entering into MODE 2 on the first plant startup following the fourteenth refueling outage (D3R14).

3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; 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:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state power levels not in excess of 2957 megawatts (thermal), except that the licensee shall not operate the facility at power levels in excess of five (5) megawatts (thermal), until satisfactory completion of modifications and final testing of the station output transformer, the auto-depressurization interlock, and the feedwater system, as described in the licensee's telegrams; dated February 26, 1971, have been verified in writing by the Commission.

Am. 265
10/23/20

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 265, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Restrictions

Operation in the coast down mode is permitted to 40% power.

- F. The licensee shall maintain the commitments made in response to the March 14, 1983, NUREG-0737 Order, subject to the following provision:

The licensee may make changes to commitments made in response to the March 14, 1983, NUREG-0737 Order without prior approval of the Commission as long as the change would be permitted without NRC approval, pursuant to the requirements of 10 CFR 50.59. Consistent with this regulation, if the change results in an Unreviewed Safety Question, a license amendment shall be submitted to the NRC staff for review and approval prior to implementation of the change.

- G. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated March 22, 1978 with supplements dated December 2, 1980, and February 12, 1981; January 19, 1983; July 17, 1987; September 28, 1987; and January 5, 1989, subject to the following provision:

The licensee 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.

- H. Physical Protection

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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Dresden Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

~~Exelon Generation Company~~[SPINCO] 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 231 and modified by License Amendment No. 239.

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- I. Deleted
- J. Deleted
- K. Deleted
- L. Deleted [Amdt. 87, 7-24-86]

M. Deleted [Amdt. 85, 12-12-85]

N. By Amendment No. 144, the license is amended to allow, on a one time temporary basis, operation of Dresden, Unit 3, with the corner room structural steel members in the Low Pressure Coolant Injection Corner Rooms outside the Updated Final Safety Analysis Report (UFSAR) design parameters. Operation under these conditions is allowed up to and including the next scheduled refueling outage (D3R14).

The repairs to Dresden, Unit 3, corner room structural steel shall restore the steel design margins to the current UFSAR (updated through Revision 1A) design criteria. The design of the modifications to the Dresden, Unit 3, corner room structural steel members will be based on use of elastic section modulus and the structural steel stresses will be limited to 1.6 of the American Institute of Steel Construction (AISC allowables). The modifications to Dresden, Unit 3, corner room structural steel will be implemented during the upcoming D3R14 refueling outage.

During this interim period of operation, should vibratory ground motion exceeding the UFSAR Operating Basis Earthquake (OBE) design parameters, Dresden, Unit 3, will be shut down for inspection and will not start up without prior NRC approval.

O. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 185, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Additional Conditions.

P. Deleted

Q. Deleted

R. ~~Exelon Generation Company, LLC~~[SPINCO] shall provide 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, LLC~~[SPINCO] 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, LLC's~~[SPINCO's] consolidated net utility plant, as recorded on ~~Exelon Generation Company, LLC's~~[SPINCO's] books of account.

- S. Deleted
- T. Deleted
- U. Deleted
- V. ~~Exelon Generation Company, LLC~~**The licensee** shall relocate certain Technical Specification requirements to ~~EGG~~**licensee**-controlled documents upon implementation of the Amendment No. 180. The items and appropriate documents are as described in Table LA, "Removal of Details Matrix," and Table R, "Relocated Specifications," that are attached to the NRC's Safety Evaluation enclosed with Amendment No. 180.
- W. The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 180 shall be as follows:
 - For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of Amendment No. 180.
 - For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of Amendment No. 180.
 - For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of Amendment No. 180.
 - For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of Amendment No. 180.

- X. The license is amended to authorize changing the UFSAR to allow credit for containment over pressure as detailed below, to assure adequate Net Positive Suction Head is available for low pressure Emergency Core Cooling System pumps following a design-basis accident.

From (sec)	To (sec)	Credit (psig)
Accident start	290	9.5
290	5,000	4.8
5,000	30,000	6.6
30,000	40,000	6.0
40,000	45,500	5.4
45,500	52,500	4.9
52,500	60,500	4.4
60,500	70,000	3.8
70,000	84,000	3.2
84,000	104,000	2.5
104,000	136,000	1.8
136,000	Accident end	1.1

Y. Updated Final Safety Analysis Report

The ~~Exelon Generation Company, LLC~~ Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. ~~The Exelon Generation Company, LLC~~ **The licensee** shall complete these activities no later than January 12, 2011, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, ~~Exelon Generation Company, LLC~~ **the licensee** may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ~~Exelon Generation Company, LLC~~ **the licensee** evaluates such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- Z. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of 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.

NRC Ltr. AA.
08/23/07

Mitigation Strategy License Condition

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

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
 2. Dose to onsite responders

NRC Ltr. BB. The licensee shall implement and maintain all Actions required by Attachment 2 to
08/23/07 NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

Am. 218 CC. Upon implementation of Amendment No. 218 adopting TSTF-448,
03/20/08 Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:

- (1) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.14.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from January 1997, 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.
- (2) The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from January 1997, 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.
- (3) The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.

Am. 242 DD.
04/29/16

Upon implementation of Amendment No. 242 the licensee shall adhere to the following requirements as part of the DNPS unit 3 spent fuel pool coupon surveillance program to ensure that the B-10 areal density of the BORAL remains at or above its minimum credited value and that the regulatory requirement to maintain the Technical Specification value of $K_{\text{eff}} \leq 0.95$ continues to be met:

- (1) Ensure that coupon measurements of B-10 areal density are performed by a qualified laboratory;
- (2) Ensure that the coupons are removed for evaluation every 10 years;
- (3) Ensure that should any coupon be identified as failing the minimum certified B-10 areal density criterion based on coupon test results, ~~EGC~~ the licensee will perform in-situ testing to confirm that the minimum B-10 areal density (0.02 g/cm²) is met for the BORAL panels installed in the DNPS spent fuel pools; and,
- (4) Submit a report to the NRC within 90 days following the completion of evaluations associated with Item 3 above. The report shall include; a description of the testing results, the assessments performed, and the interim and long-term corrective actions for abnormal indications.

4. This renewed operating license is effective as of the date of issuance and shall expire at midnight on January 12, 2031.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A – Technical Specifications
2. Appendix B – Additional Conditions

Date of Issuance: October 28, 2004

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 6

James A. FitzPatrick Nuclear Power Plant

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

~~EXELON FITZPATRICK, LLC~~

AND

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

RENEWED FACILITY OPERATING LICENSE

Renewed License No. DPR-59

1. The Nuclear Regulatory Commission (NRC or the Commission), having previously made the findings set forth in Facility Operating License No. DPR-59, dated November 21, 2000, has found that:

- A. The application to renew Facility Operating License No. DPR-59 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, and all required notifications to other agencies or bodies have been duly made;
- B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
- C. Actions have been identified and have been or will be taken with respect to: (1) managing the effects of aging on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1) during the period of extended operation, 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;
- 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;

- E. ~~Exelon FitzPatrick, LLC ("Exelon FitzPatrick") and Exelon Generation Company, LLC ("Exelon Generation Company")~~ are financially and technically qualified to engage in the activities authorized by this renewed operating license;

- F. ~~Exelon FitzPatrick and Exelon Generation Company~~ have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

- G. 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;

- H. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this renewed operating license will be in accordance with the Commission's regulations; in 10 CFR Parts 30, 40, and 70, including 10 CFR Sections 30.33, 40.32, 70.23, and 70.31; and
- I. The issuance of this renewed operating license is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Facility Operating License No. DPR-59 (previously issued to the Power Authority of the State of New York and Niagara Mohawk Power Corporation pursuant to the Atomic Safety and Licensing Board's Initial Decision and Supplemental Initial Decision dated November 12, 1973, and January 10, 1974, respectively; and the Atomic Safety and Licensing Appeal Board's Decision dated January 29, 1974) as previously amended and transferred to Entergy Nuclear FitzPatrick, LLC (ENF) and Entergy Nuclear Operations, Inc. (ENO) dated November 21, 2000, is superseded by Renewed Facility Operating License No. DPR-59, hereby issued to Exelon FitzPatrick and Exelon Generation Company to read as follows:

- A. This renewed operating license applies to the James A. FitzPatrick Nuclear Power Plant, a boiling water nuclear reactor and associated equipment (the facility), owned by Exelon FitzPatrick and operated by ~~Exelon Generation Company~~ (collectively, the licensees). The facility is located in Scriba, Oswego County, New York, 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) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," (a) Exelon FitzPatrick as the owner to possess and (b) ~~Exelon Generation Company~~ as the operator to possess, use, and operate the facility at the designated location in Scriba, Oswego County, New York, in accordance with the procedures and limitations set forth in this renewed operating license;
- (2) ~~Exelon Generation Company~~ 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;
- (3) ~~Exelon Generation Company~~ 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;

on March 1, 2017, and subsequently Exelon FitzPatrick was renamed [New FitzPatrick, LLC] and Exelon Generation Company was renamed [SPINCO] (the licensee) as the result of a transaction approved by the U.S. Nuclear Regulatory Commission on [Month/Day/Year].

[SPINCO]

[NEW]

[NEW]

[SPINCO]

[SPINCO]

[SPINCO]

[SPINCO]

- (4) ~~Exelon Generation Company~~ 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 without restriction to chemical or physical form, for sample analysis or instrument calibration; or associated with radioactive apparatus, components or tools.
- (5) 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 operating 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

[SPINCO]

~~Exelon Generation Company~~ is authorized to operate the facility at steady state reactor core power levels not in excess of 2536 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 339, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Fire Protection

[SPINCO]

~~Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved fire protections program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated November 20, 1972; the SER Supplement No. 1 dated February 1, 1973; the SER Supplement No. 2 dated October 4, 1974; the SER dated August 1, 1979; the SER Supplement dated October 3, 1980; the SER Supplement dated February 13, 1981; the NRC Letter dated February 24, 1981; Technical Specification Amendments 34 (dated January 31, 1978), 80 (dated May 22, 1984), 134 (dated July 19, 1989), 135 (dated September 5, 1989), 142 (dated October 23, 1989), 164 (dated August 10, 1990), 176 (dated January 16, 1992), 177 (dated February 10, 1992), 186 (dated February 19, 1993), 190 (dated June 29, 1993), 191 (dated July 7, 1993), 206 (dated February 28, 1994), and 214 (dated June 27, 1994); and NRC Exemptions and associated safety evaluations dated April 26, 1983, July 1, 1983, January 11, 1985,

April 30, 1986, September 15, 1986, and September 10, 1992, subject to the following provision:

[SPINCO]

~~Exelon Generation Company~~ 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.

(4) Systems Integrity
Deleted by Amendment No. 274

(5) Iodine Monitoring
Deleted by Amendment No. 274

(6) New or Revised ITS Surveillance Requirements Applicability:

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 274 shall be as follows:

- (a) For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment.
- (b) For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after the implementation of this amendment.
- (c) For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to the implementation of this amendment.
- (d) For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.

D. Physical Protection

[SPINCO]

~~Exelon Generation Company~~ 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 the 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 combined set of plans¹,

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "James A. FitzPatrick Nuclear Power Plant Physical Security, Training & Qualification and Safeguards Contingency Plan, Revision 0," submitted by letter dated October 26, 2004, as supplemented by letter dated May 17, 2006.

[SPINCO]

~~Exelon Generation Company~~ 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). ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 300, as supplemented by changes approved by License Amendment Nos. 303, 308, 311, and 316.

[SPINCO]

The

~~Exelon Generation Company~~ has been granted Commission authorization to use "stand alone preemption authority" under Section 161A of the Atomic Energy Act, 42 U.S.C. 2201a with respect to the weapons described in Attachment 1, Section II contained in its application submitted by letter dated August 30, 2013, as supplemented by letters dated November 12, 2013, and July 11, 2014. ~~Exelon Generation Company~~ shall fully implement and maintain in effect the provisions of the Commission-approved authorization.

[SPINCO]

E. Power Uprate License Amendment Implementation

The licensee shall complete the following actions as a condition of the approval of the power uprate license amendment.

(1) Recirculation Pump Motor Vibration

Perform monitoring of recirculation pump motor vibration during initial Cycle 13 power ascension for uprated power conditions.

(2) Startup Test Program

The licensee will follow a startup testing program, during Cycle 13 power ascension, as described in GE Licensing Topical Report NEDC-31897P-1, "Generic Guidelines for General Electric Boiling Water Reactor Power Uprate." The startup test program includes system testing of such process control systems as the feedwater flow and main steam pressure control systems. The licensee will collect steady-state operational data during various portions of the power ascension to the higher licensed power level so that predicted equipment performance characteristics can be verified. The licensee will do the startup testing program in accordance with its procedures. The licensee's approach is in conformance with the test guidelines of GE Licensing Topical Report NEDC-31897P-1, "Generic Guidelines for General Electric Boiling Water Reactor Power Uprate," June 1991 (proprietary), GE Licensing Topical Report NEDO-31897, "Generic Guidelines for General Electric Boiling Water Reactor Power Uprate," February 1992 (nonproprietary), and NEDC-31897P-AA, Class III (proprietary), May 1992.

(3) Human Factors

The licensee will review the results of the Cycle 13 startup test program to determine any potential effects on operator training. Training issues identified will be incorporated in Licensed Operator training during 1997. Simulator discrepancies identified will be addressed in accordance with simulator Configuration Management procedural requirements.

F. Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 289, are hereby incorporated into this renewed operating license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Additional Conditions.

[SPINCO]



G. DELETED

H. DELETED

I. DELETED

J. DELETED

K. DELETED

L. DELETED

M. DELETED

N. DELETED

O. DELETED

P. DELETED

Q. DELETED

R. Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- S. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- T. License Renewal – UFSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by Appendix A of NUREG-1905, "Safety Evaluation Report Related to the License Renewal of James A. FitzPatrick Nuclear Power Plant," dated April 2008, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).
- a. The licensee shall implement those new programs and enhancements to existing programs no later than the PEO date.
- b. The licensee shall complete those inspection and testing activities by the PEO date.

The licensee shall notify the NRC in writing within 10 days after having accomplished item (a) above and include the status of those activities that have been or remain to be completed in item (b) above.

- U. UFSAR Supplement Changes - The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the UFSAR required by the 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, ~~Exelon Generation Company~~ may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ~~Exelon Generation Company~~ evaluate such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

the licensee

the licensee

- V. Capsule withdrawal schedule - All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of the most recent NRC-approved version of the Boiling Water Reactor Vessel and Internals Project (BWRVIP) Integrated Surveillance Program (ISP) appropriate 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, as required by 10 CFR Part 50, Appendix H.

[NEW]

[SPINCO]

[SPINCO]

- W. ~~Exelon FitzPatrick shall take no action to cause Exelon Generation Company or its parent company, and Exelon Generation Company shall not take any action, to void, cancel, or modify the \$100 million Support Agreement to provide funding for the facility as represented in the application for approval of the license transfer of direct ownership of and the license to own the facility from Exelon Generation Company to Exelon FitzPatrick, without the prior written consent of the Director, Office of Nuclear Reactor Regulation.~~

\$85

approved on [Month/Day/Year]

3. This renewed operating license is effective as of the date of issuance and shall expire at midnight October 17, 2034.

FOR THE NUCLEAR REGULATORY COMMISSION

\RA

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachments/Appendices:

1. Appendix A – Technical Specifications
2. Appendix B – Deleted
3. Appendix C – Additional Conditions

Date of Issuance: September 8, 2008

APPENDIX C
ADDITIONAL CONDITIONS
OPERATING LICENSE NO. DPR-59

Amendment Number	Additional Conditions
243 [SPINCO]	Exelon Generation Company shall describe snubber operation and surveillance requirements in the Final Safety Analysis Report such that future changes to those requirements will be subject to the provisions of 10 CFR 50.59.
250 [SPINCO]	Exelon Generation Company shall relocate operability and surveillance requirements for logic bus power monitors, core spray sparger differential pressure, and low pressure coolant injection cross-connect valve position instruments to an Exelon-controlled document where future change to those relocated requirements are controlled under the provisions of 10 CFR 50.59.
274 [SPINCO]	Exelon Generation Company shall relocate the Technical Specification requirements identified in Table LA – “Removal of Details Matrix” and Table R – “Relocated Specifications” to licensee-controlled documents, as described in the application, as supplemented on June 12, 2002, and the NRC staff’s Safety Evaluation enclosed with Amendment No. 274, dated July 3, 2002. Further, relocations to the updated Final Safety Analysis Report (UFSAR) shall be reflected in the next UFSAR update required by 10 CFR 50.71(e) following implementation of this amendment.
289	<p>Control Room Envelope Habitability</p> <p>Upon implementation of Amendment No. 289, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage required by SR 3.7.3.3 in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability, as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.3.3 in accordance with Specification 5.5.14.c(i) shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2 as measured from June 28, 2004, the date of the most recent successful tracer gas test, as stated in the licensee’s letter, “NRC Generic Letter 2003-01 Control Room Habitability Initial Action Summary Report” (JAFP-04-0159), dated September 27, 2004, or within 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.</p>

Appendix C

- 2 -

(b) The first performance of the periodic assessment of CRE habitability Specification 5.5.14.c(ii) shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from June 28, 2004, the date of the most recent successful tracer gas test, as stated in the licensee's letter, "NRC Generic Letter 2003-01 Control Room Habitability Initial Action Summary Report" (JAFP-04-0159), dated September 27, 2004, or within 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 5.5.14.d shall be within 18 months, plus the 138-day allowance of SR 3.0.2 as measured from the date of the most recent successful pressure measurement test or within 138 days if not performed previously.

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.2 Plant Staff (continued)

- b. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.
- c. A radiation protection technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.
- d. Deleted
- e. The operations manager or assistant operations manager shall hold an SRO license.
- f. When in MODES 1, 2, or 3 an individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operations of the unit. This individual shall meet the qualifications specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



5.0 ADMINISTRATIVE CONTROLS

5.3 Plant Staff Qualifications

- 5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 7

LaSalle County Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1




RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-11

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for a renewed license filed by the applicant¹ 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 LaSalle County Station, Unit 1 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-99 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. ~~Exelon Generation Company, 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. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;

¹The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed [SPINCO].

- H. 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. NPF-11, subject to the conditions 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;
 - I. 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
 - J. 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 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. Based on the foregoing findings regarding this facility, Renewed Facility Operating License NPF-11 is hereby issued to the ~~Exelon Generation Company, LLC (EGC~~ or the licensee) to read as follows:
- [SPINCO] 
- A. This renewed license applies to the LaSalle County Station, Unit 1, a boiling water nuclear reactor and associated equipment, owned by the licensee. The facility is located in Brookfield Township, LaSalle County, Illinois, and is described in the licensee's "Final Safety Analysis Report," as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) [SPINCO]  ~~Exelon Generation Company, LLC~~, pursuant to Section 103 of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Brookfield Township, LaSalle County, Illinois, in accordance with the procedures and limitations set forth in this renewed license;
 - (2) [SPINCO]  ~~Exelon Generation Company, 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;

[SPINCO]

- (3) ~~Exelon Generation Company, 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;

[SPINCO]

Am. 146
01/12/01

- (4) ~~Exelon Generation Company, 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

[SPINCO]

Am. 202
07/21/11

- (5) ~~Exelon Generation Company, 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 LaSalle County Station, Units 1 and 2, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Braidwood Station, Units 1 and 2, Byron Station, Units 1 and 2, and Clinton Power Station, Unit 1.

- 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:

Am. 198
09/16/10

- (1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of full power (3546 megawatts thermal).

Am. 245
07/10/20

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 245, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Am. 194
08/28/09

- (3) DELETED

Am. 194
08/28/09

- (4) DELETED

Am. 194
08/28/09

- (5) DELETED

Am. 194
08/28/09

(6) DELETED

Am. 194
08/28/09

(7) DELETED

(8) DELETED

(9) DELETED

(10) DELETED

(11) DELETED

(12) DELETED

(13) DELETED

(14) DELETED

(15) DELETED

(16) DELETED

Am. 10
12/09/82

(17) DELETED

(18) DELETED

(19) DELETED

(20) DELETED

(21) DELETED

(22) DELETED

(23) DELETED

(24) DELETED

Am. 127
06/10/98

(25) Fire Protection Program

The licensee shall implement and maintain all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for LaSalle County Station, and as approved in NUREG-0519, "Safety Evaluation Report related to the operation of LaSalle County Station, Units 1 and 2," dated March 1981; Supplement 2 dated February 1982; Supplement 3 dated April 1982; Supplement 5 dated August 1983; Supplement 7 dated December 1983; Supplement 8 dated March 1984; and SERs for the following:

LaSalle Unit 1 License Amendment 1, dated June 18, 1982;
LaSalle Unit 1 License Amendment 18, dated August 8, 1984;
LaSalle Unit 1 License Amendment 23, dated May 22, 1985;
LaSalle Unit 1 License Amendment 44, dated June 20, 1986;
LaSalle Unit 1 License Amendment 127, dated June 10, 1998; and
NRC Evaluation of the Consequences of Postulated Failures of 1 Hour Fire Rated Darmatt KM-1 Fire Barrier under Seismic Loading at LaSalle County Station, dated March 29, 1996.

The Licensee 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.

Am. 14
05/05/83

(26) DELETED

Letter dated
05/16/07

(27) Industrial Security (Section 13.6. SER, SSER #3)

[SPINCO]

~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans,¹ which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "LaSalle County Station Security Plan,

¹ The Training and Qualification Plan and Safeguards Contingency Plan are appendices to the Security Plan.

[SPINCO]

Training and Qualification Plan, and Safeguards Contingency Plan, Revision 5," submitted by letter dated May 17, 2006.

Am. 216
07/30/15

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 203 and modified by License Amendment No. 216.

(28) DELETED

(29) DELETED

(30) DELETED

(31) DELETED

(32) DELETED

(33) DELETED

Am. 103
04/13/95

(34) DELETED

(35) DELETED

(36) DELETED

Am. 147
03/30/01

(37) DELETED

[SPINCO]

Am. 146
01/12/01

(38) ~~Exelon Generation Company, LLC~~ shall provide 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, LLC~~ 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, LLC's~~ consolidated net utility plant, as recorded on ~~Exelon Generation Company, LLC's~~ books of account.

[SPINCO]

[SPINCO's]

[SPINCO's]

Am. 243
04/06/20 (39) Deleted.

Am. 243
04/06/20 (40) Deleted.

Am. 243
04/06/20 (41) Deleted.

(42) DELETED

(43) DELETED

Letter dated
08/09/07

(44) Mitigation Strategy License Condition

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 coordination 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 or integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

Am. 186
10/31/07

(45) Upon implementation of Amendment No. 186 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.5, in accordance with TS 5.5.15.c.(i), the assessment of CRE habitability as required by Specification 5.5.15.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.15.d, shall be considered met. Following Implementation:

(a) The first performance of SR 3.7.4.5, in accordance with Specification 5.5.15.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from 1998, 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 5.5.15.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from 1998, 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 5.5.15.d, shall be within 24 months, plus 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.

(46) License Renewal License Conditions

- (a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and licensee commitments as listed in Appendix A of the "Safety Evaluation Report Related to the License Renewal of LaSalle County Station, Units 1 and 2," are collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs, activities, and commitments described in this Supplement, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests, and Experiments," and otherwise complies with the requirements in that section.
- (b) The License Renewal UFSAR Supplement, as defined in license condition 46(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).
 - 1. The licensee shall implement those new programs and enhancements to existing programs no later than 6 months prior to the PEO.
 - 2. The licensee shall complete those activities by the 6-month date prior to the PEO or to the end of the last refueling outage prior to the PEO, whichever occurs later.
 - 3. The licensee shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

Am. 102 D. The facility requires exemptions from certain requirements of 10 CFR Part 50,
03/16/95 10 CFR Part 70, and 10 CFR Part 73. These include:

(a) Exemptions from certain requirements of Appendices G, H and J and
 10 CFR Part 73 are described in the Safety Evaluation Report and
 Supplement No. 1, No. 2, No. 3 to the Safety Evaluation Report.

(b) DELETED

(c) DELETED

(d) DELETED

Am. 226 (e) DELETED
11/16 /17

Am. 112 (f) An exemption was granted to remove the Main Steam Isolation Valves
04/05/96 (MSIVs) from the acceptance criteria for the combined local leak rate test
 (Type B and C), as defined in the regulations of 10 CFR Part 50,
 Appendix J, Option B, Paragraph III.B. Exemption (f) is described in the
 safety evaluation accompanying Amendment No. 112 to this License.

These exemptions are authorized by law and will not endanger life or property or
the common defense and security and are otherwise in the public interest.
Therefore, these exemptions are hereby granted. The facility will operate, to the
extent authorized herein, in conformity with the application, as amended, and the
rules and regulations of the Commission (except as hereinafter exempted there
from), and the provisions of the Act.

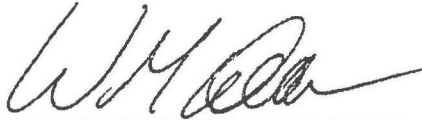
E. This renewed license is subject to the following additional condition for the
protection of the environment:

Before engaging in additional construction or operational activities which may
result in a significant adverse environmental impact that was not evaluated or
that is significantly greater than that evaluated in the Final Environmental
Statement and its Addendum dated November 1978, and the Final Supplemental
Environmental Impact Statement dated August 2016, the licensee shall provide a
written notification to the Director of the Office of Nuclear Reactor Regulation and
receive written approval from that office before proceeding with such activities.

Am. 178 F. Deleted
06/14/06

- G. The licensee 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.
- H. This renewed license is effective as of the date of issuance and shall expire April 17, 2042.

FOR THE NUCLEAR REGULATORY COMMISSION



WILLIAM M. DEAN, DIRECTOR
OFFICE OF NUCLEAR REACTOR REGULATION

Am. 194
08/28/09

Attachments:
1. DELETED
2. Appendix A – Technical
Specifications (NUREG-0861)
3. Appendix B – Environmental
Protection Plan

Date of Issuance: October 19, 2016



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-18



1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for a renewed license filed by the applicant* 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 LaSalle County Station, Unit 1 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-100 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 (except as exempted from compliance in Section 2.D below);
 - 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. ~~Exelon Generation Company, LLC~~ is technically 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;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

[SPINCO]

[SPINCO]

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed [SPINCO].

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. 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. NPF-18, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;
 - I. 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
 - J. 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 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. Based on the foregoing findings regarding this facility, Renewed Facility Operating License NPF-18 is hereby issued to the ~~Exelon Generation Company, LLC (EGG~~ or the licensee) to read as follows: [SPINCO] 
- A. This renewed license applies to the LaSalle County Station, Unit 2, a boiling water nuclear reactor and associated equipment, owned by the licensee. The facility is located in Brookfield Township, LaSalle County, Illinois, and is described in the licensee's "Final Safety Analysis Report," as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended. [SPINCO] 
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~EGG~~:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility at the designated location in Brookfield Township, LaSalle County, Illinois, in accordance with the procedures and limitations set forth in this renewed license;

- (2) 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;
- (3) 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;
- (4) 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

[SPINCO]

Am. 189
07/21/11

- (5) ~~Exelon Generation Company, 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 LaSalle County Station, Units 1 and 2, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Braidwood Station, Units 1 and 2, Byron Station, Units 1 and 2, and Clinton Power Station, Unit 1.

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:

Am. 185
09/16/10

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of full power (3546 megawatts thermal). Items in Attachment 1 shall be completed as specified. Attachment 1 is hereby incorporated into this license.

Am. 231
07/10/20

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 231, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Am. 181 (3) DELETED
08/28/09

Am. 181 (4) DELETED
08/28/09

Am. 181 (5) DELETED
08/28/09

Am. 181 (6) DELETED
08/28/09

Am. 181 (7) DELETED
08/28/09

Am. 181 (8) DELETED
08/28/09

Am. 181 (9) DELETED
08/28/09

(10) DELETED

(11) DELETED

(12) DELETED

(13) DELETED

(14) DELETED

Am. 112 (15) Fire Protection Program
06/10/98

The licensee shall implement and maintain all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for LaSalle County Station, and as approved in NUREG-0519, "Safety Evaluation Report related to the operation of LaSalle County Station, Units 1 and 2," dated March 1981; Supplement 2 dated February 1982; Supplement 3 dated April 1982; Supplement 5 dated August 1983; Supplement 7 dated December 1983; Supplement 8 dated March 1984; and SERs for the following:

LaSalle Unit 2 License Amendment 11, dated May 22, 1985;
LaSalle Unit 2 License Amendment 14, dated October 2, 1985;
LaSalle Unit 2 License Amendment 112, dated June 10, 1998; and
NRC Evaluation of the Consequences of Postulated Failures of 1 Hour
Fire Rated Darmatt KM-1 Fire Barrier under Seismic Loading at LaSalle
County Station, dated March 29, 1996.

The Licensee 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.

Letter dated (16) Industrial Security (Section 13.6, SER, SSER #3, SSER #5)
05/16/07

[SPINCO]

~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The
combined set of plans¹, which contain Safeguards Information protected
under 10 CFR 73.21, is entitled: "LaSalle County Station Security Plan,
Training and Qualification Plan, and Safeguards Contingency Plan,
Revision 5," submitted by letter dated May 17, 2006.

Am. 202
07/30/15

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved
by License Amendment No. 190 and modified by License Amendment
No. 202.

(17) DELETED

(18) DELETED

(19) DELETED

¹ The Training and Qualification Plan and Safeguards Contingency Plan are appendices to the Security Plan.

(20) DELETED

Am. 133
03/30/01

(21) Deleted.

[SPINCO]

Am. 132
01/12/01

(22) ~~ECC~~ shall provide 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 ~~ECC~~ 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 ~~ECC's~~ consolidated net utility plant, as recorded on ~~ECC's~~ books of account.

[SPINCO]

Am. 229
04/06/20

(23) Deleted.

[SPINCO's]

Am. 229
04/06/20

(24) Deleted.

[SPINCO's]

Am. 229
04/06/20

(25) Deleted.

(26) DELETED

(27) DELETED

Letter dated
08/09/07

(28) Mitigation Strategy License Condition

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 coordination 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 or integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

- Am. 173
10/31/07
- (29) Upon implementation of Amendment No. 173 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 3.7.4.5, in accordance with TS 5.5.15.c.(i), the assessment of CRE habitability as required by Specification 5.5.15.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.15.d, shall be considered met. Following implementation:
- (a) The first performance of SR 3.7.4.5, in accordance with Specification 5.5.15.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from 1998, 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 5.5.15.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from 1998, 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 5.5.15.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.
- Am. 194
10/31/13
- (30) DELETED
- Am. 194
10/31/13
- (31) DELETED
- Am. 194
10/31/13
- (32) DELETED

- Am. 186
01/28/11
- (33) The methodology in AREVA NP Inc Report No. ANP-2843(P), "LaSalle Unit 2 Nuclear Power Station Spent Fuel Storage Pool Criticality Safety Analysis with Neutron Absorbing Inserts and Without Boraflex," Revision 1, dated August 2009, as corrected by Attachment 3 to a letter dated June 10, 2010 from P. Simpson to the NRC, shall be used to perform required criticality calculations associated with the storage cells containing NETCO-SNAP-IN® inserts.
- Am. 192
02/27/13
- (34) Use of Global Nuclear Fuel – Americas, LLC, Report, NEDC-33106P, "GEXL97 Correlation for Atrium-10 Fuel," Revision 4, August 2012, for LaSalle Unit 2 shall be limited to the same range of applicability for calculations of Safety Limit Minimum Critical Power Ratios as documented in NRC letter from W.A. Macon, Jr. (NRC) to J. L. Skolds, "LaSalle County Station, Units 1 and 2 – Correction to Issuance of Amendments (TAC Nos. MB9888 and MB9889)," dated January 14, 2004 (ADAMS Accession Number ML040130278).
- (35) License Renewal License Conditions
- (a) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and licensee commitments as listed in Appendix A of the "Safety Evaluation Report Related to the License Renewal of LaSalle County Station, Units 1 and 2," are collectively the "License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs, activities, and commitments described in this Supplement, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests and Experiments," and otherwise complies with the requirements in that section.
- (b) The License Renewal UFSAR Supplement, as defined in license condition 35(a) above, describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).
1. The licensee shall implement those new programs and enhancements to existing programs no later than 6 months prior to the PEO.
 2. The licensee shall complete those activities by the 6-month date prior to PEO or the end of the last refueling outage prior to the PEO, whichever occurs later.

- Am. 87 D. The facility requires exemptions from certain requirements of 10 CFR Part 50,
03/16/95 10 CFR Part 70, and 10 CFR Part 73. These include:

- Am. 181 (b) DELETED
08/28/09

- Am. 212
11/16 /17

- Am. 181
08/28/09

- Am. 97
04/05/96

E. Before engaging in additional construction or operational activities which 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 and its Addendum dated November 1978, and the Final Supplemental Environmental Impact Statement dated September 2016, the licensee shall provide a written notification to the Director of the Office of Nuclear Reactor Regulation and receive written approval from that office before proceeding with such activities.

Am. 164 F. Deleted
06/14/06

Am. 164 G. Deleted
06/14/06

- H. The licensee 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.
- I. This renewed license is effective as of the date of issuance and shall expire at Midnight on December 16, 2043.

FOR THE NUCLEAR REGULATORY COMMISSION



WILLIAM M. DEAN, DIRECTOR
OFFICE OF NUCLEAR REACTOR REGULATION

Attachments:

- 1. DELETED
- 2. DELETED
- 3. Appendix A – Technical
Specifications (NUREG-1013)
- 4. Appendix B – Environmental
Protection Plan

Date of Issuance: October 19, 2016

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 8

Limerick Generating Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO 50-352

LIMERICK GENERATING STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

- A. The application for renewed license filed by Exelon Generation Company, LLC (~~Exelon Generation Company~~ or the licensee) 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 Limerick Generating Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-106 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 (except as exempted from compliance in Section 2.D. below);
- 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 (except as exempted from compliance in Section 2.D. below);
- E. The licensee is technically 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;
- F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
- G. The issuance of this renewed license will not be inimical to the common defense and security or the health and safety of the public;

Renewed License No. NPF-39

* The Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. NPF-39, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. 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.
 - J. 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 the 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. Based on the foregoing findings, the Partial Initial Decisions issued by the Atomic Safety and Licensing Board dated March 8, 1983, August 29, 1984, May 2, 1985 and July 22, 1985, and the Decision of the Appeal Board dated September 26, 1984, regarding this facility, and approval by the Nuclear Regulatory Commission in its Memorandum and Order dated August 8, 1985, the license for Fuel Loading and Low Power Testing, License No. NPF-27, issued on October 26, 1984, is superseded by Renewed Facility Operating License NPF-39 hereby issued to the ~~Exelon Generation Company~~ (the licensee), to read as follows:
- A. This renewed license applies to the Limerick Generating Station, Unit 1, a boiling water nuclear reactor and associated equipment, owned by ~~Exelon Generation Company~~. The facility is located on the licensee's site in Montgomery and Chester Counties, Pennsylvania on the banks of the Schuylkill River approximately 1.7 miles southeast of the city limits of Pottstown, Pennsylvania and 21 miles northwest of the city limits of Philadelphia, Pennsylvania, and is described in the licensee's Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report-Operating License Stage, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Exelon Generation Company~~:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Montgomery and Chester Counties, Pennsylvania, in accordance with the procedures and limitations set forth in this renewed license,

[SPINCO]

[SPINCO]

[SPINCO]

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to 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;
- (3) 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;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40, 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
- (5) 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, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.

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 (except as exempted from compliance in Section 2.D. below) 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:

[SPINCO]

(1) Maximum Power Level

~~Exelon Generation Company~~ is authorized to operate the facility at reactor core power levels not in excess of 3515 megawatts thermal (100% rated power) in accordance with the conditions specified herein and in Attachment 1 to this license. The items identified in Attachment 1 to this renewed license shall be completed as specified. Attachment 1 is hereby incorporated into this renewed license.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 251, are hereby incorporated into this renewed license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

[SPINCO]

(3) Fire Protection (Section 9.5, SSER-2, -4)*

[SPINCO]

~~Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Final Safety Analysis Report for the facility, and as approved in the NRC Safety Evaluation Report dated August 1983 through Supplement 9, dated August 1989, and Safety Evaluation dated November 20, 1995, subject to the following provision:

The licensee 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.

The Information contained on FOL pages 5 and 6
were intentionally omitted.

*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.

(16) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 230, ~~are~~ hereby incorporated into this renewed license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Additional Conditions.

[SPINCO]

(17) ~~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.

[SPINCO]

(18) Deleted.

[SPINCO's]

(19) Deleted.

(20) Deleted.

[SPINCO's]

(21) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (22) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- (23) Upon implementation of Amendment No. 188 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 4.7.2.2.a, in accordance with TS 6.16.c.(i), the assessment of CRE habitability as required by Specification 6.16.c.(ii), and the measurement of CRE pressure as required by Specification 6.16.d, shall be considered met. Following implementation:
 - (a) The first performance of SR 4.7.2.2.a, in accordance with Specification 6.16.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful tracer gas test, as stated in the December 10, 2004 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 6.16.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful tracer gas test, as stated in the December 10, 2004 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 6.16.d, shall be within 24 months, plus the 180 days allowed by SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful pressure measurement test, or within 180 days if not performed previously.
- (24) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities described in the UFSAR supplement, without prior Commission approval, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- (25) The licensee's UFSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as revised in accordance with license condition 2.C.(24), describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).

(a) ~~Exelon Generation Company~~ shall implement those new programs and enhancements to existing programs no later than April 26, 2024.

[SPINCO]

(b) ~~Exelon Generation Company~~ shall complete those activities designated for completion prior to the PEO, as noted in Commitment Nos. 18, 19, 20, 22, 23, 24, 28, 29, 30, 38, 39, 40, 41, 42, 43, and 47, of Appendix A of NUREG-2171, "Safety Evaluation Report Related to the License Renewal of Limerick Generating Station, Units 1 and 2," no later than April 26, 2024, or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.

[SPINCO]

[SPINCO]

(c) ~~Exelon Generation Company~~ shall notify the NRC in writing within 30 days after having accomplished item (a) above and include the status of those activities that have been or remain to be completed in item (b) above.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50. These include (a) exemption from the requirement of Appendix J, the testing of containment air locks at times when the containment integrity is not required (Section 6.2.6.1 of the SER and SSER-3), (b) exemption from the requirements of Appendix J, the leak rate testing of the Main Steam Isolation Valves (MSIVs) at the peak calculated containment pressure, Pa, and exemption from the requirements of Appendix J that the measured MSIV leak rates be included in the summation for the local leak rate test (Section 6.2.6 of SSER-3), (c) exemption from the requirement of Appendix J, the local leak rate testing of the Traversing Incore Probe Shear Valves (Section 6.2.6 of the SER and SSER-3). These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore these exemptions are hereby granted pursuant to 10 CFR 50.12 and 50.47(c). With the granting of these exemptions the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provision of the Act, and the rules and regulations of the Commission.

[SPINCO]

- E. ~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, submitted by letter dated May 17, 2006, is entitled: "Limerick Generating Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2." The set contains Safeguards Information protected under 10 CFR 73.21.

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 204 and modified by License Amendment No. 218.

- F. Deleted
- G. The licensee 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.
- H. This renewed license is effective as of the date of issuance and shall expire at midnight on October 26, 2044.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Attachments/Appendices:

1. Attachments 1-2
2. Appendix A - Technical Specifications
3. Appendix B - Environmental Protection Plan
4. Appendix C - Additional Conditions

Date of Issuance: October 20, 2014

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

ATTACHMENT 1
To-NPF 39

The attachment identifies items which must be completed to the satisfaction of the staff in accordance with the operational modes or conditions identified below.

1. OUTSTANDING ITEM TO BE ACCOMPLISHED PRIOR TO INITIALLY INERTING THE CONTAINMENT AS REQUIRED BY TECHNICAL SPECIFICATIONS 3/4.6.6.3 AND 3/4.10.5

Complete the modifications to the liquid nitrogen vaporization facility and the containment inerting system described in the licensee's letter dated September 26, 1984 or alternate modifications determined acceptable following an evaluation per 10 CFR 50.59 (IE Bulletin 84-01)

In the event alternate modifications are used, describe these modifications and their supporting bases in a report to NRC Region I within thirty days of their implementation.

2. OUTSTANDING ITEMS TO BE CORRECTED BY THE FIRST REFUELING OUTAGE

- a. Seal the conduits to instruments in the pipe tunnel. (Inspection Report 50-352/84-27, Item 04)
- b. Complete the actions for Construction Deficiency Report (84-00-10 "Water accumulation in diesel fuel oil tanks.")

ATTACHMENT 2
To NPF-39

This attachment identifies the shift operating staff experience requirements.

At all times the plant is in an operating condition other than cold shutdown or refueling, the licensee shall have a licensed senior operator on each shift who has had at least six months of hot operating experience on a same type plant, including at least six weeks at power levels greater than 20% of full power, and who has had startup and shutdown experience. For those shifts where such an individual is not available on the plant staff, an advisor shall be provided who has had at least four years of power plant experience, including two years of nuclear plant experience, and who has had at least one year of experience on shift as a licensed senior operator at a similar type facility. Advisors, as a minimum, shall be trained on plant procedures, technical specifications and plant systems, and shall be examined on these topics at a level sufficient to assure familiarity with the plant. These advisors or suitably qualified replacements shall be retained until at least one of the senior operators on each shift has the required experience. The NRC shall be notified at least 30 days prior to the release of any special assigned advisors.

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-39

LIMERICK GENERATING STATION

UNIT 1

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-352

ENVIRONMENTAL PROTECTION PLAN

(NONRADIOLOGICAL)

APPENDIX C
ADDITIONAL CONDITIONS
OPERATING LICENSE NO. NPF-39

~~Exelon Generation Company, LLC~~ **[SPINCO]** shall comply with the following conditions on the schedule noted below:

<u>Amendment No.</u>	<u>Additional Conditions</u>
----------------------	------------------------------

230

~~Exelon~~ **[SPINCO]** is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using: Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2 and Class 3 SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in Unit 1 License Amendment No. 230 dated July 31, 2018.

~~Exelon~~ **[SPINCO]** will complete the implementation items listed in Attachment 2 of Exelon letter to NRC dated April 23, 2018 prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

ADMINISTRATIVE CONTROLS

6.2.3 DELETED. The information from this section is located in the UFSAR.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to Shift Supervision in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit. The Shift Technical Advisor shall meet the qualifications specified by the 1985 NRC Policy Statement on Engineering Expertise on Shift.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]





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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

- A. The application for renewed license filed by Exelon Generation Company, LLC (~~Exelon Generation Company~~ or the licensee) 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 Limerick Generating Station, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-107 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 (except as exempted from compliance in Section 2.D. below);
- 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 (except as exempted from compliance in Section 2.D. below);
- E. The licensee is technically 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;
- F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;

* The Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

Renewed License No. NPF-85

- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. NPF-85, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. 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.
- J. 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 the 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. Based on the foregoing findings and the Decision of the Atomic Safety and Licensing Board, LBP-85-25, dated July 22, 1985, the Commission's Order dated July 7, 1989, and the Commission's Memorandum and Order dated August 25, 1989, regarding this facility, Renewed Facility Operating License NPF-85 is hereby issued to ~~the Exelon Generation Company~~ (the licensee), to read as follows:
- [SPINCO] A. This renewed license applies to the Limerick Generating Station, Unit 2, a boiling water nuclear reactor and associated equipment, owned by ~~Exelon Generation Company~~. The facility is located on the licensee's site in Montgomery and Chester Counties, Pennsylvania on the banks of the Schuylkill River approximately 1.7 miles southeast of the city limits of Pottstown, Pennsylvania and 21 miles northwest of the city limits of Philadelphia, Pennsylvania, and is described in the licensee's Final Safety Analysis Report, as supplemented and amended, and in the licensee's Environmental Report-Operating License Stage, as supplemented and amended. [SPINCO]
- B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Exelon Generation Company~~:
- (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Montgomery and Chester Counties, Pennsylvania, in accordance with the procedures and limitations set forth in this renewed license;

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and to 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;
- (3) 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;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40, 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
- (5) 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, and to receive and possess, but not separate, such source, byproduct, and special nuclear materials as contained in the fuel assemblies and fuel channels from the Shoreham Nuclear Power Station.

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 (except as exempted from compliance in Section 2.D. below) 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

[SPINCO]

~~Exelon Generation Company~~ is authorized to operate the facility at reactor core power levels of 3515 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 213, are hereby incorporated into this renewed license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

[SPINCO]

(3) Fire Protection (Section 9.5, SSER-2, -4)*

[SPINCO] ~~Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Final Safety Analysis Report for the facility, and as approved in the NRC Safety Evaluation Report dated August 1983 through Supplement 9, dated August 1989, and Safety Evaluation dated November 20, 1995, subject to the following provision:

The licensee 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.

(4) Physical Security and Safeguards

[SPINCO] ~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, submitted by letter dated May 17, 2006, is entitled: "Limerick Generating Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2." The set contains Safeguards Information protected under 10 CFR 73.21.

[SPINCO] ~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 166 and modified by License Amendment No. 180.

[SPINCO] (5) ~~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~~ book of accounts.

[SPINCO's]

[SPINCO's]

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

¹The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

(6) Deleted.

(7) Deleted.

(8) Deleted.

(9) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (10) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- (11) Upon implementation of Amendment No. 149 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 4.7.2.2.a, in accordance with TS 6.16.c.(i), the assessment of CRE habitability as required by Specification 6.16.c.(ii), and the measurement of CRE pressure as required by Specification 6.16.d, shall be considered met. Following implementation:
- (a) The first performance of SR 4.7.2.2.a, in accordance with Specification 6.16.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful tracer gas test, as stated in the December 10, 2004 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 6.16.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful tracer gas test, as stated in the December 10, 2004 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 6.16.d, shall be within 24 months, plus the 180 days allowed by SR 4.0.2, as measured from September 16, 2004, the date of the most recent successful pressure measurement test, or within 180 days if not performed previously.
- (12) The information in the UFSAR supplement, submitted pursuant to 10 CFR 54.21(d), is henceforth part of the UFSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities described in the UFSAR supplement, without prior Commission approval, provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- (13) The licensee's UFSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as revised in accordance with license condition 2.C.(12), describes certain programs to be implemented and activities to be completed prior to the period of extended operation (PEO).

(a) ~~Exelon Generation Company~~ shall implement those new programs and enhancements to existing programs no later than December 22, 2028.

[SPINCO]

(b) ~~Exelon Generation Company~~ shall complete those activities designated for completion prior to the PEO, as noted in Commitment Nos. 18, 19, 20, 22, 23, 24, 28, 29, 30, 38, 39, 40, 41, 42, 43, and 47, of Appendix A of NUREG-2171, "Safety Evaluation Report Related to the License Renewal of Limerick Generating Station, Units 1 and 2," no later than December 22, 2028, or the end of the last refueling outage prior to the period of extended operation, whichever occurs later.

[SPINCO]

(c) ~~Exelon Generation Company~~ shall notify the NRC in writing within 30 days after having accomplished item (a) above and include the status of those activities that have been or remain to be completed in item (b) above.

[SPINCO]

- (14) The Additional Conditions contained in Appendix C, as revised through Amendment No. 193, are hereby incorporated into this renewed license. ~~Exelon Generation Company~~ shall operate the facility in accordance with the Additional Conditions.

[SPINCO]

D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. These include (a) exemption from the requirement of Appendix J, the testing of containment air locks at times when the containment integrity is not required (Section 6.2.6.1 of the SER and SSER-3), (b) exemption from the requirements of Appendix J, the leak rate testing of the Main Steam Isolation Valves (MSIVs) at the peak calculated containment pressure, Pa, and exemption from the requirements of Appendix J that the measured MSIV leak rates be included in the summation for the local leak rate test (Section 6.2.6.1 of SSER-3), (c) exemption from the requirement of Appendix J, the local leak rate testing of the Traversing Incore Probe Shear Valves (Section 6.2.6.1 of the SER and SSER-3), and (d) an exemption from the schedule requirements of 10 CFR 50.33(k)(l) related to availability of funds for decommissioning the facility (Section 22.1, SSER 8). The special circumstances regarding exemptions (a), (b) and (c) are identified in Sections 6.2.6.1 of the SER and SSER 3. An exemption from the criticality monitoring requirements of 10 CFR 70.24 was previously granted with NRC materials license No. SNM-1977 issued November 22, 1988. The licensee is hereby exempted from the requirements of 10 CFR 70.24 insofar as this requirement applies to the handling and storage of fuel assemblies held under this renewed license.

- E. Deleted
- F. The licensee 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.
- G. This renewed license is effective as of the date of issuance and shall expire at midnight on June 22, 2049.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Enclosures:

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

Date of Issuance: October 20, 2014

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-85
LIMERICK GENERATING STATION

UNIT 2

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-353

ENVIRONMENTAL PROTECTION PLAN
(NON-RADIOLOGICAL)

August 25, 1989

APPENDIX C
ADDITIONAL CONDITIONS
OPERATING LICENSE NO. NPF-85

~~Exelon Generation Company, LLC~~ [SPINCO] shall comply with the following conditions on the schedule noted below:

<u>Amendment No.</u>	<u>Additional Conditions</u>
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193

~~Exelon~~ [SPINCO] is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using: Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2 and Class 3 SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in Unit 2 License Amendment No. 193 dated July 31, 2018.

~~Exelon~~ [SPINCO] will complete the implementation items listed in Attachment 2 of Exelon letter to NRC dated April 23, 2018 prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

ADMINISTRATIVE CONTROLS

6.2.3 DELETED. The information from this section is located in the UFSAR.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide advisory technical support to Shift Supervision in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit. The Shift Technical Advisor shall meet the qualifications specified by the 1985 NRC Policy Statement on Engineering Expertise on Shift.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 9

Nine Mile Point Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

NINE MILE POINT NUCLEAR STATION, LLC

EXELON GENERATION COMPANY, LLC[SPINCO]

DOCKET NO. 50-220

NINE MILE POINT NUCLEAR STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE

Renewed License No. DPR-63

1. The Nuclear Regulatory Commission (NRC or the Commission) having previously made the findings set forth in License No. DPR-63 issued on December 26, 1974, has now found that:
 - A. The application for license, as amended, originally filed by the Niagara Mohawk Power Corporation as supplemented by Nine Mile Point Nuclear Station, LLC (NMP LLC)* complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Nine Mile Point Nuclear Station Unit No. 1 has been substantially completed in conformity with Construction Permit No. CPPR-16 and the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
 - C. 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 the 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;
 - D. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - E. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and the safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;

* By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to Nine Mile Point Nuclear Station, LLC (**NMP, LLC or owner licensee**), was approved. By Order dated March 25, 2014, the transfer of the operating authority under this license to Exelon Generation Company, LLC was approved. **By Order dated [Month/Day/Year], a transaction was approved that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. Unless otherwise noted, references to "licensee" are to [SPINCO] as the operating licensee.**

- F. ~~Exelon Generation~~**[SPINCO]** and NMP LLC are technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
 - G. ~~Exelon Generation~~**[SPINCO] as operator of the facility** and NMP LLC** **as owner of the facility** 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 full-term 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 adverse environmental impacts of license renewal are not so great that preserving the option of license renewal would be unreasonable and the issuance of the full-term Renewed Facility Operating License No. DPR-63 (subject to the conditions for protection of the environment set forth herein) is in accordance with Appendix D, 10 CFR Part 50 of the Commission's regulations and all applicable requirements have been satisfied; and
 - J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70 including Section 30.33, 40.32, 70.23 and 70.31.
2. Renewed Facility Operating License No. DPR-63 is hereby issued to ~~Exelon Generation~~**[SPINCO]** and Nine Mile Point Nuclear Station, LLC to read as follows:
- A. This license applies to the Nine Mile Point Nuclear Station Unit No. 1, a single cycle, force circulation, boiling light water reactor, and associated equipment (the facility), owned by Nine Mile Point Nuclear Station, LLC. The facility is located on the Nine Mile Point site on the southeast shore of Lake Ontario in Oswego County, New York and is described in the "Final Safety Analysis Report" (with its Amendments Nos. 3 through 13 and its Supplements Nos. 1 through 10) and the "Environmental Report" (with its Supplements Nos. 1 through 3).
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~Nine Mile Point Nuclear Station, LLC:~~
 - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," (a) NMP LLC to possess and (b) ~~Exelon Generation~~**[SPINCO]** to possess, use, and operate the facility at the designated location in Oswego County, New York, in accordance with the procedures and limitations set forth in this amended license;

** ~~Exelon Generation~~**[SPINCO]** is authorized to act for Nine Mile Point Nuclear Station, LLC and has exclusive responsibility and control over the physical possession, operation, and maintenance of the facility.

- (2) ~~Exelon Generation~~[SPINCO] 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;
- (3) ~~Exelon Generation~~[SPINCO] 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;
- (4) ~~Exelon Generation~~[SPINCO] 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 and equipment calibration or associated with radioactive apparatus or components.
- (5) ~~Exelon Generation~~[SPINCO] 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 operating 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; Section 50.54 and 50.59 of Part 50; and Section 70.32 of Part 70. This renewed license 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 also subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 1850 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, which is attached hereto, as revised through Amendment No. 244 is hereby incorporated into this license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Technical Specifications.

Renewed License No. DPR-63

Amendment No. ~~191 through 210, 211, 213, 214, 215, 216, 217, 218, 220, 222, 223, 224, 225, 227, 229, 231, 233,~~
234,

~~235, 236, 237, 239, 240, 241, 243, 244~~

Correction Letter Dated August 7, 2012
Correction Letter Dated March 17, 2015
Correction Letter dated July 29, 2016

(3) Deleted

Amendment No. ~~191 through 210, 211, 213, 214, 215, 216, 217, 218, 220, 222, 223, 224, 225, 227, 229, 231, 233,~~
~~234,~~
~~235, 236, 237, 239, 240, 241, 243, 244~~

Renewed License No. DPR-63

~~Correction Letter Dated August 7, 2012~~
~~Correction Letter Dated March 17, 2015~~
~~Correction Letter dated July 29, 2016~~

D. This license is subject to the following additional conditions:

- (1) NMP LLC will complete construction of a new radwaste facility in conformance with the design defined and evaluated in the FES, to be operational no later than June 1976.
- (2) Deleted by License Amendment No. 51
- (3) Deleted by License Amendment No. 51
- (4) Security, Training and Qualification and Safeguards Contingency Plans

~~Exelon Generation~~**[SPINCO]** 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 the 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 combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21 is entitled "Nine Mile Point Nuclear Station, LLC Physical Security, Safeguards Contingency, and Security Training and Qualification Plan, Revision 1," and was submitted by letter dated April 26, 2006.

~~Exelon Generation~~**[SPINCO]** 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 licensee's CSP was approved by License Amendment No. 209 and modified by License Amendment No. 219.

- (5) Paragraph 2.D(5) of the license has been combined with paragraph 2.D(4) as amended above into a single paragraph.
- (6) Recirculation System Safe-end Replacement

The recirculation system and safe-end replacement program including the cutting and welding of the replacement components and the dose mitigation program (ALARA) is approved, subject to the following conditions:

- a. NMP LLC shall complete the recirculation piping stress reanalysis prior to restart of Nine Mile Point Nuclear Power Station, Unit No. 1. The results of this analysis for selected representative portions of the recirculation system shall be submitted to the NRC prior to restart of the facility.
- b. All fuel and control rods shall be removed from the reactor pressure vessel and stored in the spent fuel pool during the period that work on the safe-end and recirculation system replacement program is in progress.

Renewed License No. DPR-63
Revised by letter dated February 21, 2007
Amendment No. 195, 209, 214, 218

- c. Exelon Generation shall update the collective occupational dose estimate weekly. If the updated estimate exceeds the 1908 person-rem estimate by more than 10%, the licensee shall provide a revised estimate, including the reasons for such changes, to the NRC within 15 days of determination.
- d. Progress reports shall be provided at 90-day intervals from June 30, 1982 and due 30 days after close of the interval, with a final report within 60 days after completion of the repair. These reports will conclude:
 - (1) a summary of this occupational dose received to date by major task, and
 - (2) a comparison of estimated doses with the doses actually received.

(7) Fire Protection

~~Exelon Generation~~**[SPINCO]** shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee's amendment request dated June 11, 2012, supplemented by letters dated February 27, March 27, April 30, and December 9, 2013; and January 22, March 14, April 15, May 9, and May 23, 2014 and as approved in the safety evaluation report dated June 30, 2014. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation dated June 30, 2014 to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(c) Transition License Conditions

1. Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2) above.
2. The licensee shall implement the modifications to its facility, as described in Table S-1, "Plant Modifications Committed," of NMPNS letter dated May 9, 2014, to complete the transition to full compliance with 10 CFR 50.48(c) prior to startup from the first refueling outage following issuance of the license amendment. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.
3. The licensee shall implement the items listed in Table S-2, "Implementation Items," of NMPNS letter dated May 9, 2014, 180 days after issuance of the license amendment unless that date falls within a scheduled refueling outage, then the due date will be 60 days following startup from the scheduled refueling outage.

(8) Hot Process Pipe Penetrations

Hot Process Pipe Penetrations in the Emergency Condenser Steam Supply (2 each), Main Steam (2 each), Feedwater (2 each), Cleanup Suction (1 each), and Cleanup Return (1 each) piping systems have been identified as not fully in conformance with FSAR design criteria. This anomaly in design condition from the original design is approved for the duration of Cycle 8 or until March 31, 1986, whichever occurs first, subject to the following conditions:

- (a) An unidentified leakage limit of a change of 1 gallon per minute in 24 hours to permit operation will be imposed by administrative control (Standing Order) at the facility for the interim period.

- (b) NMP LLC shall restore the facility to a condition consistent with the FSAR or provide a change to the FSAR criteria for staff review and approval prior to restart from the forthcoming Cycle 8 outage.

(9) Deleted.

(10) Deleted.

(11) Deleted.

(12) Deleted.

(13) Mitigation Strategy License Condition

~~Exelon Generation~~[SPINCO] 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
- c. Actions to minimize release to include consideration of:
 - (1) Water spray scrubbing
 - (2) Dose to onsite responders

- (14) ~~Exelon Generation~~[SPINCO] shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- (15) Upon implementation of Amendment No. 195 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by TS 4.4.5.g, in accordance with TS 6.5.8.c.(i), the assessment of CRE habitability as required by Specification 6.5.8.c.(ii), and the measurement of CRE pressure as required by Specification 6.5.8.d, shall be considered met. Following implementation:
- (a) The first performance of TS 4.4.5.g, in accordance with Specification 6.5.8.c.(i), shall be within the specified Frequency of 6 years plus the 18-month allowance of TS 4.0.2, as measured from February 19, 2004, the date of the most recent tracer gas test, as stated in the January 31, 2005 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability, Specification 6.5.8.c.(ii), shall be within 3 years, plus the 9-month allowance of TS 4.0.2, as measured from February 19, 2004, the date of the most recent tracer gas test, as stated in the January 31, 2005 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent tracer gas test is greater than 3 years.
 - (c) The first performance of the periodic measurement of CRE pressure, Specification 6.5.8.d, shall be within 24 months, plus the 182 days allowed by TS 4.0.2, as measured from March 1, 2007, the date of the most recent successful pressure measurement test, or within the next 182 days if not performed previously.
- (16) ~~The existing E.D.F. International S.A.S. Support Agreement of approximately \$145 million, dated November 6, 2009, may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. Nine Mile Point Nuclear Station, LLC, CENG or Exelon Generation shall not take any action to cause E.D.F. International S.A.S., or its successors and assigns, to void, cancel, or materially modify the E.D.F. International S.A.S. Support Agreement or cause it to fail to perform, or impair its performance under the E.D.F. International S.A.S. Support Agreement, without the prior written consent of the NRC. Exelon Generation shall inform the NRC in writing no later than 14 days after any funds are provided to or for the CENG subsidiary licensee under the E.D.F. International S.A.S. Support Agreement.~~ Deleted.

- (17) ~~Exelon Corporation~~**[SPINCO]** shall, no later than the ~~time the date the closing of the transaction approved on [Month/Day/Year] occurs~~ license transfers occur, enter into a Support Agreement of approximately \$~~245-128~~ million with the **owner** licensee. ~~The Exelon Corporation Support Agreement shall supersede the Support Agreement provided by Exelon Generation, dated March 12, 2012, in all respects and shall be consistent with the representations contained in the August 6, 2013 transfer application.~~ Nine Mile Point Nuclear Station, LLC, **or** CENG ~~or Exelon Generation~~ shall not take any action to cause ~~Exelon Corporation~~**[SPINCO]**, or its successors and assigns, to void, cancel, or materially modify the Exelon Corporation Support Agreement or cause it to fail to perform, or impair its performance under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement, without the prior written consent of the NRC. The ~~Exelon Corporation~~**[SPINCO]** Support Agreement may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. An executed copy of the ~~Exelon Corporation~~**[SPINCO]** Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction ~~and license transfers~~. ~~Exelon Generation~~**[SPINCO]** shall inform the NRC in writing no later than 14 days after any funds are provided to or for the **owner** licensee under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement.
- (18) ~~Exelon Corporation shall, no later than the time the license transfers occur, provide a parent guarantee in the amount of \$165 million to ensure a source of funds for the facility in the event that the existing cash pool between the licensee and CENG is insufficient to cover operating costs. The existing CENG cash pool arrangement shall be consistent with the representations contained in the 2009 Transfer Application dated January 22, 2009 (ADAMS Accession No. ML090290101). Nine Mile Point Nuclear Station, LLC, CENG or Exelon Generation shall not take any action to cause Exelon Corporation, or its successors and assigns, to void, cancel or materially modify the parent guarantee or cause it to fail to perform, or impair its performance under the parent guarantee without the prior written consent of the NRC.~~**Deleted.**
- (19) Within 14 days of the **closing of the transaction approved on [Month/Day/Year]** ~~license transfers~~, ~~Exelon Generation~~**[SPINCO]** shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated ~~August 6, 2013~~**February 25, 2021**. Section 7.1 of the Nuclear Operating Services Agreement may not be modified in any material respect related to financial arrangements that would adversely impact the ability of the licensee to fund safety-related activities authorized by the license without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.
- (20) ~~Within 10 days of the license transfers, Exelon Generation shall submit to the NRC the amended CENG Operating Agreement reflecting the terms set forth in the application dated August 6, 2013. The amended and restated Operating Agreement may not be modified in any material respect concerning decision making authority over safety, security and reliability without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.~~**Deleted.**

- (21) ~~At least half the members of the CENG Board of Directors must be U.S. citizens.~~**Deleted.**

- (22) ~~The CENG Chief Executive Officer, Chief Nuclear Officer, and Chairman of the CENG Board of Directors must be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure that the business and activities of CENG with respect to the facility's license are at all times conducted in a manner consistent with the public health and safety and common defense and security of the United States.~~**Deleted.**
- (23) Deleted
- (24) Deleted

- E. This license is effective as of the date of issuance and shall expire on August 22, 2029.
- F. The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the UFSAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, the licensee may make changes to the programs and activities described in the supplement without prior Commission approval, provided that the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- G. The UFSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. The licensee shall complete these activities in accordance with the schedule in Appendix A of NUREG-1900, "Safety Evaluation Report Related to the License Renewal of Nine Mile Point Nuclear Station, Units 1 and 2", dated September 2006, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- H. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of the most recent NRC-approved version of the Boiling Water Reactor Vessels and Internals Project (BWRVIP) Integrated Surveillance Program (ISP) appropriate for the configuration of the specimens in the capsule. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Enclosure:

Appendix A – Technical Specifications

Date of Issuance: October 31, 2006

RADIOLOGICAL TECHNICAL SPECIFICATIONS

APPENDIX A

TO

FACILITY OPERATING LICENSE NO. DPR-63

FOR THE

NINE MILE POINT NUCLEAR STATION UNIT 1

DOCKET NO. 50-220

DECEMBER 26, 1974

FOREWORD

These revised specifications supersede in their entirety the previous technical specifications and are issued as Appendix A to Full-Term Operating License DPR-63 issued by the Atomic Energy Commission. The Environmental Technical Specifications are issued as Appendix B to License DPR-63.

e. As a minimum, either the Manager Operations or the General Supervisor Operations shall hold an SRO license.

f. The Shift Technical Advisor (STA) shall provide advisory technical support to the shift supervision in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

6.3 Unit Staff Qualifications

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

← [SPINCO]

6.4 Procedures

6.4.1 Written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972 and cover the following activities:

a. The applicable procedures recommended in Regulatory Guide 1.33, Appendix A, November 3, 1972;

NINE MILE POINT NUCLEAR STATION, LLC

LONG ISLAND LIGHTING COMPANY

~~EXELON GENERATION COMPANY, LLC [SPINCO]~~

DOCKET NO. 50-410

NINE MILE POINT NUCLEAR STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-69







1. The Nuclear Regulatory Commission (NRC or the Commission) having previously made The findings set forth in License No. NPF-69 issued on July 2, 1987, has now found that:
 - A. The application for license filed by Nine Mile Point Nuclear Station, LLC* (NMP LLC) 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 and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Nine Mile Point Nuclear Station, Unit 2 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-112 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. 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 the 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;
 - D. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission (except as exempted from compliance in Section 2.D. below);

* By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to Nine Mile Point Nuclear Station, LLC (**NMP, LLC or owner licensee**), was approved. By Order dated March 25, 2014, the transfer of the operating authority under this license to Exelon Generation Company, LLC was approved. **By Order dated [Month/Day/Year], a transaction was approved that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. Unless otherwise noted, references to "licensee" are to [SPINCO] as the operating licensee.**

- E. There is reasonable assurance: (i) that the activities authorized by this 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 (except as exempted from compliance in Section 2.D. below);
 - F. ~~Exelon Generation~~[SPINCO] and ~~Nine Mile Point Nuclear Station, LLC~~ are technically qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - G. Nine Mile Point Nuclear Station, LLC and Long Island Lighting Company, as owners of the facility, and ~~Exelon Generation~~[SPINCO], as operator of the facility, 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 full-term 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 adverse environmental impacts of license renewal are not so great that preserving the option of license renewal would be unreasonable and the issuance of Renewed Facility Operating License No. NPF-69, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - J. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70.
2. Renewed Facility Operating License No. NPF-69 is hereby issued to ~~Exelon Generation~~[SPINCO], the Nine Mile Point Nuclear Station, LLC and Long Island Lighting Company (the licensees**) to read as follows:
- A. This renewed operating license applies to the Nine Mile Point Nuclear Station, Unit 2, a boiling water nuclear reactor, and associated equipment (the facility) owned by Nine Mile Point Nuclear Station, LLC and Long Island Lighting Company. The facility is located on the ~~owner~~ licensees' site on the southeast shore of Lake Ontario in the town of Scriba, Oswego County, New York and is described in the Nine Mile Point Nuclear Station – Unit 2 "Final Safety Analysis Report," as supplemented and amended, and in the "Environmental Report," as supplemented and amended.

** ~~Exelon Generation~~[SPINCO] is authorized to act as agent for Nine Mile Point Nuclear Station, LLC and Long Island Lighting Company and has exclusive responsibility and control over the physical possession, operation, and maintenance of the facility.

B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:

- (1) ~~Exelon Generation~~[SPINCO], pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the above designated location in Oswego County, New York, in accordance with the procedures and limitations set forth in this license; 
- (2) NMP LLC and Long Island Lighting Company, pursuant to Section 103 of the Act and 10 CFR Part 50, to possess the facility at the designated location in Oswego County, New York, in accordance with the procedures and limitations set forth in this license; 
- (3) ~~Exelon Generation~~[SPINCO], 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; 
- (4) ~~Exelon Generation~~[SPINCO], 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) ~~Exelon Generation~~[SPINCO], 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) ~~Exelon Generation~~[SPINCO], 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 operating 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

~~Exelon Generation~~[SPINCO] is authorized to operate the facility at reactor core power levels not in excess of 3988 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 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 181, are hereby incorporated into this license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Fuel Storage and Handling (Section 9.1, SSER 4)*

- a. Fuel assemblies, when stored in their shipping containers, shall be stacked no more than three containers high.
- b. When not in the reactor vessel, no more than three fuel assemblies shall be allowed outside of their shipping containers or storage racks in the New Fuel Vault or Spent Fuel Storage Facility.
- c. The above three fuel assemblies shall maintain a minimum edge-to-edge spacing of twelve (12) inches from the shipping container array and approved storage rack locations.
- d. The New Fuel Storage Vault shall have no more than ten fresh fuel assemblies uncovered at any one time.

(4) Turbine System Maintenance Program (Section 3.5.1.3.10, SER)

The operating licensee shall submit for NRC approval by October 31, 1989, a turbine system maintenance program based on the manufacturer's calculations of missile generation probabilities. (Submitted by NMPC letter dated October 30, 1989 from C.D. Terry and approved by NRC letter dated March 15, 1990 from Robert Martin to Mr. Lawrence Burkhardt, III).

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

(5) Inservice Inspection (Sections 5.2.4.3 and 6.6.3, SSER 5)

The operating licensee shall submit an inservice inspection program in accordance with 10 CFR 50.55a(g)(4) for staff review by July 31, 1987.

(6) Initial Startup Test Program (Section 14, SER, SSERs 4 and 5)

Any changes to the Initial Test Program described in Section 14 of the Final Safety Analysis Report made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

(7) Operation with Reduced Feedwater Temperature (Section 15.1, SSER 4)

The licensee shall not operate the facility with reduced feedwater temperature for the purpose of extending the normal fuel cycle. The facility shall not be operated with a feedwater heating capacity less than that required to produce a feedwater temperature of 420.5°F at rated steady-state conditions unless analyses supporting such operations are submitted by the licensee and approved by the staff.

(8) Safety Parameter Display System (SPDS) (Section 18.2, SSERs 3 and 5)

Prior to startup following the first refueling outage, the operating licensee shall have operational an SPDS that includes the revisions described in their letter of November 19, 1985. Before declaring the SPDS operational, the operating licensee shall complete testing adequate to ensure that no safety concerns exist regarding the operation of the Nine Mile Point Nuclear Station, Unit No. 2 SPDS.

(9) Detailed Control Room Design Review (Section 18.1, SSERs 5 and 6)

- (a) Deleted per Amendment No. 24 (12-18-90)
- (b) Prior to startup following the first refueling outage, the operating licensee shall provide the results of the reevaluation of normally lit and nuisance alarms for NRC review in accordance with its August 21, 1986 letter.
- (c) Prior to startup following the first refueling outage, the operating licensee shall complete permanent zone banding of meters in accordance with its August 4, 1986 letter.

(10) Additional Condition 1

The operating licensee is authorized by Amendment No. 91 to relocate certain Technical Specification requirements previously included in Appendix A to licensee-controlled documents, as described in Table R, Relocated Specifications and Removal of Details Matrix, attached to the NRC Staff's safety evaluation dated February 15, 2000, enclosed with the amendment. Implementation of Amendment No. 91 shall include the relocation of these requirements to the appropriate documents, which shall be completed no later than December 31, 2000. The relocations to the Updated Safety Analysis Report shall be reflected in updates completed in accordance with 10 CFR 50.71(e).

(11) Additional Condition 2

The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 91 shall be as follows:

For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of this amendment.

For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of this amendment.

For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of this amendment.

For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to the implementation of this amendment.

(11a) Deleted

(12) Deleted

(13) Deleted

(14) Deleted

(15) Deleted

(16) Reactor Vessel Integrated Surveillance Program

NMP LLC is authorized to revise the Updated Safety Analysis Report (USAR) to allow implementation of the Boiling Water Reactor Vessel and Internals Project reactor pressure vessel Integrated Surveillance Program as the basis for demonstrating compliance with the requirements of Appendix H to Title 10 of the *Code of Federal Regulations*, Part 50, "Reactor Vessel Material Surveillance Program Requirements," as set forth in the licensee's application dated January 9, 2004, and as supplemented on June 17, 2004.

(17) Mitigation Strategy License Condition

The operating 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
- c. Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (18) The operating licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- (19) Upon implementation of Amendment No. 126 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 3.7.2.4, in accordance with TS 5.5.13.c.(i), the assessment of CRE habitability as required by Specification 5.5.13.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.13.d, shall be considered met. Following implementation:
 - (a) The first performance of SR 3.7.2.4, in accordance with Specification 5.5.13.c.(i), shall be within the specified Frequency of 6 years plus the 18-month allowance of SR 3.0.2, as measured from August 20, 2004, the date of the most recent tracer gas test, or within the next 18 months if the time period since the most recent tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from August 20, 2004, the date of the most recent tracer gas test, or within the next 9 months if the time period since the most recent tracer gas test is greater than 3 years.
 - (c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 24 months, plus the 182 days allowed by SR 3.0.2, as measured from March 6, 2006, the date of the most recent successful pressure measurement test, or within the next 182 days if not performed previously.

(20) Potential Adverse Flow Effects

These license conditions provide for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer) for power ascension from CLTP (3467 MWt) to 120 percent OLTP (or 115 percent of CLTP) (3988 MWt) condition.

- (a) The following requirements are placed on operation of the facility above the thermal power level of 3467 MWt for the power ascension from CLTP (3467 MWt):
1. The licensee shall monitor the main steam line (MSL) strain gages during power ascension above 3467 MWt for increasing pressure fluctuations in the steam lines. While first increasing power above 3467 MWt, the licensee shall collect data from the MSL strain gages at nominal 1 percent thermal power increments and evaluate steam dryer performance based on this data.
 2. The licensee shall hold the facility at 105 percent and 110 percent of 3467 MWt to collect data from the MSL strain gages required by Condition 1.a., conduct plant inspections and walkdowns, and evaluate steam dryer performance based on these data; shall provide the evaluation to the NRC staff by facsimile or electronic transmission to the NRC project manager upon completion of the evaluation; and shall not increase power above each hold point until 96 hours after the NRC project manager confirms receipt of the transmission.
 3. During power ascension at each 2.5 percent power level above CLTP, the licensee shall perform stress analysis for the top 100 stress locations of the steam dryer using the applicable ACM 4.1 load definition and determine the minimum alternating stress ratio. The licensee shall confirm that this ratio is equal to or greater than the ratio based on the velocity-square relationship; otherwise, the licensee shall return the facility to a lower power level where the minimum alternating stress ratio satisfies the velocity-square relationship, and shall not further increase the power without approval from the NRC. A summary of the results shall be provided for NRC review at each 5 percent data review plateau. After completion of the full EPU test plateau (approximately 120 percent OLTP or 115 percent CLTP), the licensee shall provide the NRC a full startup test report and final stress analysis report within 90 days.
 4. If any frequency peak from the MSL strain gage data exceeds the Level 1 limit curves, the licensee shall return the facility to a power level at which the limit curve is not exceeded. The licensee shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation by facsimile or electronic transmission to the NRC project manager prior to further increases in

reactor power, except when stress analysis is re-performed and new limit curves are developed. In that case, the licensee shall not further increase power above each hold point until 96 hours after the NRC project manager confirms receipt of the transmission.

5. In addition to evaluating the MSL strain gage data, the licensee shall monitor reactor pressure vessel water level instrumentation, and MSL piping accelerometers on an hourly basis during power ascension above 3467 MWt. If resonance frequencies are identified as increasing above nominal levels in proportion to strain gage instrumentation data, the licensee shall stop power ascension, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to NRC staff by facsimile or electronic transmission to the NRC project manager prior to further increases in reactor power.
- (b) The licensee shall implement the following actions for the power ascension from CLTP (3467 MWt) to 120 percent OLTP (3988 MWt) condition.
1. In the event that acoustic signals (in MSL strain gage signals) are identified that challenge the limit curves during power ascension above 3467 MWt, the licensee shall evaluate dryer loads, and stresses, including the effect of ± 10 percent frequency shift, and re-establish the limit curves, and shall perform a frequency-specific assessment of ACM uncertainty at the acoustic signal frequency including application of 65 percent bias error and 10 percent uncertainty to all the SRV acoustic resonances. In the event that stress analyses are re-performed based on new strain gage data to address paragraph 1 above, the revised load definition, stress analysis, and limit curves shall include:
 - (a) Application of 65 percent bias error and 10 percent uncertainty to all the SRV acoustic resonances.
 - (b) Use of bump-up factors associated with all the SRV acoustic resonances and determined from the scale model test results.
 - (c) Evaluation of the effect of ± 10 percent frequency shifts in increments of 2.5 percent.
 2. The licensee shall incorporate in NMP2 steam dryer the design modifications identified in Section 2.2.6.1.2 of this SE before increasing the power above CLTP.
 3. After reaching EPU conditions, the licensee shall obtain measurements from the MSL strain gages and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the limit curves with the updated ACM load definition, which will be provided to the NRC staff.

4. The licensee shall revise plant procedures to reflect long-term monitoring of plant parameters potentially indicative of steam dryer failure; to reflect consistency of the facility's steam dryer inspection program with BWRVIP-139; and to identify the NRC project manager for the facility as the point of contact for providing power ascension testing information during power ascension.
 5. The licensee shall submit the final EPU steam dryer load definition for the facility to the NRC upon completion of the power ascension test program.
 6. The licensee shall submit the flow-induced vibration related portions of the EPU startup test procedure to the NRC, including methodology for updating the limit curve, prior to initial power ascension above 3467 MWt.
- (c) The licensee shall prepare the EPU startup test procedure to include:
1. The stress limit curves to be applied for evaluating steam dryer performance;
 2. Specific hold points and their durations during EPU power ascension;
 3. Activities to be accomplished during the hold points;
 4. Plant parameters to be monitored;
 5. Inspections and walkdowns to be conducted for steam, feedwater, and condensate systems and components during the hold points;
 6. Methods to be used to trend plant parameters;
 7. Acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections;
 8. Actions to be taken if acceptance criteria are not satisfied; and
 9. Verification of the completion of commitments and planned actions specified in its application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3467 MWt.

The licensee shall provide the related EPU startup test procedure sections to the NRC by facsimile or electronic transmission to the NRC project manager prior to increasing power above 3467 MWt.

- (d) The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:

1. During initial power ascension testing above 3467 MWt, each test plateau increment shall be approximately 5 percent of 3467 MWt.
 2. Level 1 performance criteria; and
 3. The methodology for establishing the limit curves used for the Level 1 and Level 2 performance
- (e) The results of the power ascension testing to verify the continued structural integrity of the steam dryer and the final steam dryer load definition shall be submitted to the NRC staff in a report within 60 days following the completion of all 120 percent OLTP (EPU) power ascension testing.
- (f) During the first two scheduled refueling outages after reaching 120 percent OLTP conditions, a visual inspection shall be conducted of all accessible, susceptible locations of the steam dryer in accordance with BWRVIP-139 inspection guidelines. In addition, a visual inspection of all accessible welds that were analyzed using embedded models shall be conducted. In addition, a visual inspection of the existing indications in the upper support ring, the drain channel to skirt weld, the tie bar-to-hood weld heat affected zone, and vertical support plates shall be conducted.
- (g) The results of the visual inspections of the steam dryer shall be reported to the NRC staff within 90 days following startup from the respective refueling outage.
- (h) At the end of the second refueling outage, following the implementation of the EPU, the licensee shall submit a long-term steam dryer inspection plan based on industry operating experience along with the baseline inspection results for NRC review and approval.

The license conditions in 2.C.(20) above shall expire (1) upon satisfaction of the requirements in paragraphs (f) and (g), provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw(s) or unacceptable flaw growth that is due to fatigue, and (2) upon satisfaction of the requirements specified in paragraph (h).

(21) Fatigue Monitoring Program

If stress based fatigue monitoring is used, it shall include all six stress terms in accordance with NB-3200. The condition for this requirement will be carried over and be applicable for operation under EPU conditions and in the plant life extension to 60 years.

- (22) ~~The existing E.D.F. International S.A.S. Support Agreement of approximately \$145 million, dated November 6, 2009, may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. Nine Mile Point Nuclear Station, LLC, CENG or Exelon Generation shall not take any action to cause E.D.F. International S.A.S., or its successors and assigns, to void, cancel, or materially modify the E.D.F. International S.A.S. Support Agreement or cause it to fail to perform, or impair its performance under the E.D.F. International S.A.S. Support Agreement, without the prior written consent of the NRC. Exelon Generation shall inform the NRC in writing no later than 14 days after any funds are provided to or for the CENG subsidiary licensee under the E.D.F. International S.A.S. Support Agreement.~~**Deleted.**
- (23) ~~[SPINCO] Exelon Corporation shall, no later than the the date the closing of the transaction approved on [Month/Day/Year] occur~~**time the license transfers occur**, enter into a Support Agreement of approximately ~~\$245-128~~ million with the **owner** licensee. ~~The Exelon Corporation Support Agreement shall supersede the Support Agreement provided by Exelon Generation, dated March 12, 2012, in all respects and shall be consistent with the representations contained in the August 6, 2013 transfer application. Nine Mile Point Nuclear Station, LLC, or CENG or Exelon Generation shall not take any action to cause Exelon Corporation~~**[SPINCO]**, or its successors and assigns, to void, cancel, or materially modify the Exelon Corporation Support Agreement or cause it to fail to perform, or impair its performance under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement, without the prior written consent of the NRC. The ~~Exelon Corporation~~**[SPINCO]** Support Agreement may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. An executed copy of the ~~Exelon Corporation~~**[SPINCO]** Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction and license transfers. ~~Exelon Generation~~**[SPINCO]** shall inform the NRC in writing no later than 14 days after any funds are provided to or for the **owner** licensee under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement.
- (24) ~~Exelon Corporation shall, no later than the time the license transfers occur, provide a parent guarantee in the amount of \$165 million to ensure a source of funds for the facility in the event that the existing cash pool between the licensee and CENG is insufficient to cover operating costs. The existing CENG cash pool arrangement shall be consistent with the representations contained in the 2009 Transfer Application dated January 22, 2009 (ADAMS Accession No. ML090290101). Nine Mile Point Nuclear Station, LLC, CENG or Exelon Generation shall not take any action to cause Exelon Corporation, or its successors and assigns, to void, cancel or materially modify the parent guarantee or cause it to fail to perform, or impair its performance under the parent guarantee without the prior written consent of the NRC.~~**Deleted.**

- (25) Within 14 days of the **closing of the transaction approved on [Month/Day/Year]**~~license transfers, Exelon Generation~~**[SPINCO]** shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated ~~August 6, 2013~~**February 25, 2021**. Section 7.1 of the Nuclear Operating Services Agreement may not be modified in any material respect related to financial arrangements that would adversely impact the ability of the licensee to fund safety-related activities authorized by the license without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.
- (26) ~~Within 10 days of the license transfers, Exelon Generation shall submit to the NRC the amended CENG Operating Agreement reflecting the terms set forth in the application dated August 6, 2013. The amended and restated Operating Agreement may not be modified in any material respect concerning decision making authority over safety, security and reliability without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.~~**Deleted.**
- (27) ~~At least half the members of the CENG Board of Directors must be U.S. citizens~~**Deleted.**
- (28) ~~The CENG Chief Executive Officer, Chief Nuclear Officer, and Chairman of the CENG Board of Directors must be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure that the business and activities of CENG with respect to the facility's license are at all times conducted in a manner consistent with the public health and safety and common defense and security of the United States.~~**Deleted.**
- (29)
- (30)

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70.
- i) An exemption from the critically alarm requirements of 10 CFR Part 70.24 was granted in the Special Nuclear Materials License No. SNM-1895 dated November 27, 1985. This exemption is described in Section 9.1 of Supplement 4 to the SER. This previously granted exemption is continued in this operating license.
 - ii) Exemptions to certain requirements of Appendix J to 10 CFR Part 50 are described in Supplements 3, 4, and 5 to the SER. These include (a) (this item left intentionally blank); (b) an exemption from the requirement of Option B of Appendix J, exempting main steam isolation valve measured leakage from the combined leakage rate limit of 0.6 La. (Section 6.2.6 of SSER 5)*; (c) an exemption from Option B of Appendix J, exempting the hydraulic control system for the reactor recirculation flow control valves from Type A and Type C leak testing (Section 6.2.6 of SSER 3); (d) an exemption from Option B of Appendix J, exempting Type C testing on traversing incore probe system shear valves. (Section 6.2.6 SSER 4)
 - iii) An exemption to Appendix A to 10 CFR Part 50 exempting the Control Rod Drive (CRD) hydraulic lines to the reactor recirculation pump seal purge equipment from General Design Criterion (GDC) 55. The CRD hydraulic lines to the reactor recirculation pump seal purge equipment use two simple check valves for the isolation outside containment (one side). (Section 6.2.4, SSER 3)
 - iv) A schedular exemption to GDC 2, Appendix A to 10 CFR Part 50, until the first refueling outage, to demonstrate the adequacy of the downcomer design under the plant faulted condition. This exemption permits additional analysis and/or modifications, as necessary, to be completed by the end of the first refueling outage. (Section 6.2.1.7.4, SSER 3)
 - v) A schedular exemption to GDC 50, Appendix A to 10 CFR Part 50 to allow the operating licensee until start-up following the "mini-outage," which is to occur within 12 months of commencing power operation (entering Operational Condition 1), to install redundant fuses in circuits that use transformers for redundant penetration protection in accordance with their letter of August 29, 1986 (NMP2L 0860). (Section 8.4.2, SSER 5)

* The parenthetical notation following the discussion of each exemption denotes the section of the Safety Evaluation Report (SER) and/or its supplements wherein the safety evaluation of the exemption is discussed.

- vi) A schedular exemption to 10 CFR 50.55a(h) for the Neutron Monitoring System until completion of the first refueling outage to allow the operating licensee to provide qualified isolation devices for Class 1 E/non-1E interfaces described in their letters of June 23, 1987 (NMP2L 1057) and June 25, 1987 (NMP2L 1058). (Section 7.2.2.10, SSER 6).

For the schedular exemptions in iv), v), and vi), above, the operating licensee, in accordance with its letter of October 31, 1986, shall certify that all systems, components, and modifications have been completed to meet the requirements of the regulations for which the exemptions have been granted and shall provide a summary description of actions taken to ensure that the regulations have been met. This certification and summary shall be provided 10 days prior to the expiration of each exemption period as described above.

The exemptions set forth in this Section 2.D are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security. These exemptions are hereby granted. The special circumstances regarding each exemption are identified in the referenced section of the Safety Evaluation Report and the supplements thereto. The exemptions in ii) through vi) are granted pursuant to 10 CFR 50.12.

With these exemptions, the facility will operate to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. ~~Exelon Generation~~[SPINCO] 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 combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21 is entitled "Nine Mile Point Nuclear Station, LLC Physical Security, Safeguards Contingency, and Security Training and Qualification Plan, Revision 1," and was submitted by letter dated April 26, 2006. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

~~Exelon Generation~~[SPINCO] 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 Nine Mile Point Nuclear Station's CSP was approved by License Amendment No. 137 and modified by License Amendment No. 149. The licensee has obtained Commission authorization to use Section 161A preemption authority under 42 U.S.C. 2201a for weapons at its facility.
- F. ~~Exelon Generation~~[SPINCO] shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Amendment No. 27 and as described in submittals dated March 25, May 7 and 9, June 10 and 25, July 11 and 16, August 19 and 22, September 5, 12, and 23, October 10, 21, and 22, and December 9, 1986,

and April 10 and May 20, 1987, and as approved in the SER dated February 1985 (and Supplements 1 through 6) subject to the following provision:

~~Exelon Generation~~**[SPINCO]** 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.

- G. 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.
- H. This license is effective as of the date of issuance and shall expire at midnight on October 31, 2046.
- I. The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, the licensee may make changes to the programs and activities described in the supplement without prior Commission approval, provided that the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- J. The UFSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. the licensee shall complete these activities in accordance with Appendix A of NUREG-1900, "Safety Evaluation Report Related to the License Renewal of Nine Mile Point Nuclear Station, Units 1 and 2", dated September 2006, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- K. For the renewed license term, all capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of the most recent NRC-approved version of the Boiling Water Reactor Vessels and Internals Project (BWRVIP) Integrated Surveillance Program (ISP) appropriate for the configuration of the specimens in the capsule. All capsules placed in storage

must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A – Technical Specifications (NUREG-1253)
2. Appendix B – Environmental Protection Plan

Date of Issuance: October 31, 2006

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

5.3.1	Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the Exelon Quality Assurance Topical Report.
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[SPINCO]

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Enclosure 10

Peach Bottom Atomic Power Station, Units 1, 2, and 3

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

DOCKET NO. 50-171

PEACH BOTTOM ATOMIC POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 11
License No. DPR-12

1. The U.S. Nuclear Regulatory Commission (NRC) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated May 21, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and NRC regulations set forth in 10 CFR Chapter I;
 - B. The facility will be maintained in conformity with the application, the provisions of the Act, and the regulations of the NRC;
 - 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 NRC's regulations set forth in 10 CFR Chapter I;
 - D. The licensee is technically and financially qualified to engage in the activities authorized by this amended license in accordance with the rules and regulations of the NRC;
 - E. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the NRC's regulations;
 - F. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - G. The issuance of this amendment is in accordance with 10 CFR Part 51 of NRC's regulations and applicable requirements have been satisfied; and
 - H. The possession and storage of byproduct material as authorized by this amended license will be in accordance with NRC regulations in 10 CFR Part 30, including 10 CFR Section 30.33.
2. Accordingly, the license is amended by changes to License No. DPR-12 and the Technical Specifications as indicated in the attachment to this license amendment and Facility Operating License No. DPR-12 is hereby amended to read as follows:

* The NRC approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. References to "the licensee" are to [SPINCO]."

Amendment No. 11

A. This amended license applies to the Peach Bottom Atomic Power Station, Unit 1, a permanently shutdown, high temperature, gas cooled, demonstration power reactor, and associated equipment (the facility) owned by ~~Exelon Generation Company~~. The facility is located at the licensee's site in York County, Pennsylvania, and is described in the application dated May 21, 2002.

[SPINCO]

B. Subject to the conditions and the requirements incorporated herein, the NRC hereby licenses the ~~Exelon Generation Company~~:

[SPINCO]

- (1) Pursuant to Section 104(b) of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" to possess but not operate the facility.
- (2) Pursuant to the Act and 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material" to possess, but not to separate, such byproduct material as may have been produced by operation of the facility.

C. This license shall be deemed to contain and be subject to the conditions specified in Part 20, Section 30.34 of Part 30, Section 50.59 of Part 50, 10 CFR Chapter 1, and to all applicable provisions of the Act and to the rules, regulations, and orders of the NRC now or hereafter in effect and is subject to the additional conditions specified below:

- (1) ~~Exelon Generation Company~~ shall not dismantle or dispose of the facility without prior approval of the NRC.

[SPINCO]

- (2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 11 are hereby incorporated in this license. The licensee shall maintain the facility in accordance with the Technical Specifications.

- (3) ~~Exelon Generation Company~~ shall provide to the Director of the Office of Nuclear Material Safety and Safeguards, 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.

[SPINCO]

[SPINCO]

[SPINCO's]

[SPINCO's]

- (4) Deleted

(5) Deleted.

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(6) Deleted.

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- D. This amended license is effective as of the date of issuance and shall expire on December 24, 2015.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Claudia M. Craig for

Larry W. Camper, Chief
Decommissioning Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Attachment: Changes to the Technical Specifications

Date of Issuance: December 26, 2002



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

PSEG NUCLEAR, LLC

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT 2

SUBSEQUENT RENEWED FACILITY OPERATING LICENSE

Subsequent Renewed License No. DPR-44

1. The U.S. Nuclear Regulatory Commission (the Commission) having previously made the findings set forth in Renewed License No. DPR-44 issued May 7, 2003, has now found that:
 - A. The application for Subsequent Renewed Facility Operating License No. DPR-44 filed by Exelon Generation Company LLC (Exelon Generation Company) and PSEG Nuclear LLC (PSEG Nuclear) (the licensees) 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, and all required notifications to other agencies or bodies have been duly made;
 - B. Actions have been identified and have been or will be taken with respect to managing the effects of aging during the subsequent 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 subsequent renewed facility operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for Peach Bottom Atomic Power Station, Unit No. 2, and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance: (1) that the activities authorized by this subsequent renewed license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission;

* The NRC approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"]. References to "the licensee" are to [SPINCO].*

- [SPINCO]
- E. ~~Exelon Generation Company~~ is technically qualified, and the licensees are financially qualified to engage in the activities authorized by this subsequent renewed license in accordance with the rules and regulations of the Commission;
- F. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and indemnity Agreements," of the Commission's regulations;
- G. The issuance of this subsequent renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the Commission concludes that the issuance of the Subsequent Renewed Facility Operating License No. DPR-44 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by the subsequent renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Sections 30.33, 40.32, 70.23 and 70.31.
2. On the basis of the foregoing findings regarding this facility, Renewed Facility Operating License No. DPR-44, issued May 7, 2003, is superseded by Subsequent Renewed Facility Operating License No. DPR-44, which is hereby issued to ~~the Exelon Generation Company~~ and PSEG Nuclear, licensees, to read as follows:
- [SPINCO]
- A. This subsequent renewed facility operating license applies to the Peach Bottom Atomic Power Station, Unit 2, a single-cycle, forced-circulation boiling water nuclear reactor and associated equipment (the facility), owned by the licensees and operated by ~~Exelon Generation Company~~. The facility is located partly in Peach Bottom Township, York County, partly in Drumore Township, Lancaster County, and partly in Fulton Township, Lancaster County in southeastern Pennsylvania 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) ~~Exelon Generation Company~~, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility and PSEG Nuclear to possess the facility at the designated location in Peach Bottom, York County, Pennsylvania in accordance with the procedures and limitations set forth in this license;
- [SPINCO]
- [SPINCO]

- (2) ~~Exelon Generation Company~~, 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;
- (3) ~~Exelon Generation Company~~, 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;
- (4) ~~Exelon Generation Company~~, 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 when associated with radioactive apparatus or components;
- (5) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Limerick Generating Station, Units 1 and 2.

C. This subsequent 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, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

(1) Maximum Power Level

~~Exelon Generation Company~~ is authorized to operate the Peach Bottom Atomic Power Station, Unit 2, at steady state reactor core power levels not in excess of 4016 megawatts thermal.

(2) Technical Specifications


The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 335, are hereby incorporated in the license.

~~Exelon Generation Company~~ shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, submitted by letter dated May 17, 2006, is entitled: "Peach Bottom Atomic Power Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program, Revision 3." The set contains Safeguards Information protected under 10 CFR 73.21.

[SPINCO]  ~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 281 and modified by Amendment No. 301.

(4) Fire Protection

[SPINCO] 

The ~~Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility, and as approved in the NRC Safety Evaluation Report (SER) dated May 23, 1979, and Supplements dated August 14, September 15, October 10 and November 24, 1980, and in the NRC SERs dated September 16, 1993, and August 24, 1994, subject to the following provision:


[SPINCO]  The ~~Exelon Generation Company~~ 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.


(5) Public Service Electric & Gas Company (PSE&G) to PSEG Nuclear License Transfer Conditions

(a) Deleted.

(b) Deleted.

(c) PSEG Nuclear shall not take any action that would cause PSEG Power LLC or its parent companies to void, cancel, or diminish the commitment to fund an extended plant shutdown as represented in the application for approval of the transfer of this license from PSE&G to PSEG Nuclear.

[SPINCO]  (6) ~~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

[SPINCO] 

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

[SPINCO's]

(10%) of ~~Exelon Generation Company's~~ consolidated net utility plant, as recorded on ~~Exelon Generation Company's~~ books of account.

(7) Deleted.

(8) Deleted.

(9) Deleted.

(10) Additional Conditions of the Renewed License

(a) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement, as revised on January 31, 2003, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following the issuance of the renewed license. Until that update is complete, the ~~Exelon Generation Company~~ may make changes to the programs described in the supplement without prior Commission approval, provided that the ~~Exelon Generation Company~~ evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

licensee

licensee

(b) Future Inspection Activities

The ~~Exelon Generation Company~~ Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on January 31, 2003, describes certain future inspection activities to be completed before the period of extended operation. The ~~Exelon Generation Company~~ shall complete these activities no later than August 8, 2013, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

licensee

(c) Integrated Surveillance Program

The ~~Exelon Generation Company~~ shall implement an NRC staff-approved reactor vessel integrated surveillance program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved Boiling Water Reactor Vessel and Internals Project program or through a staff-approved plant-specific program. Before August 8, 2013, the licensee will notify the NRC of its decision to implement the integrated surveillance program or a plant-specific program, and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the vessel surveillance material testing program.

[SPINCO]

(d) Core Shroud Inspection and Evaluation Guidelines Program

[SPINCO]

~~The Exelon Generation Company~~ shall implement an NRC staff-approved core shroud inspection and evaluation guidelines program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved Boiling Water Reactor Vessel and Internals Project program or through a staff-approved plant-specific program. Before August 8, 2013, the licensee will notify the NRC of its decision to implement the core shroud inspection and evaluation guidelines program or a plant-specific program and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the core shroud inspection and evaluation guidelines program.

(11) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (12) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- (13) Deleted

(14) Spent Fuel Pool Criticality Considerations

- (a) Use of spent fuel pool storage cells without NETCO-SNAP-IN® rack inserts shall be restricted as follows:
 - 1) Minimum panel Boron-10 areal density of a storage cell shall be greater than or equal to 0.014 grams per square centimeter to store fuel assemblies with the maximum in-core cold k-infinity of up to 1.235. The minimum panel Boron-10 areal density shall be evaluated by assuming that the panel areal density was initially equal to a value of 0.0235 grams per square centimeter.
 - 2) A storage cell shall not contain any fuel assembly if the minimum panel Boron-10 areal density of a storage cell is less than 0.014 grams per square centimeter. The minimum panel Boron-10 areal density shall be evaluated by assuming that the panel areal density was initially equal to a value of 0.0235 grams per square centimeter.
- (b) Until the installation of NETCO-SNAP-IN® rack inserts are completed in the Peach Bottom Unit 2 spent fuel pool, Boraflex degradation shall be monitored analytically every 6 months.
- (c) Boraflex degradation shall be monitored by in-situ testing in the Peach Bottom Unit 2 spent fuel pool no later than December 31, 2014, unless installation of the NETCO-SNAP-IN® rack inserts for Unit 2 have been completed prior to this date.
- (d) Installation of NETCO-SNAP-IN® rack inserts shall be completed by December 31, 2016.

(15) Potential Adverse Flow Effects

In conjunction with the license amendment to revise paragraph 2.C(1) of Renewed Facility Operating License No. DPR-44, for Peach Bottom Unit 2, to reflect the new maximum licensed reactor core power level of 3951 megawatts thermal (MWt), the license is also amended to add the following license condition. This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer). This license condition is applicable to the initial power ascension from 3514 MWt to the extended power uprate (EPU) power level of 3951 MWt:

- (a) The following requirements are placed on the initial operation of the facility, above the thermal power level of 3514 MWt, for the power ascension to 3951 MWt. These conditions are applicable until the first time full EPU conditions (3951 MWt) are achieved. If the number of active main steam line (MSL) strain gauges is less than two strain

gauges (180 degrees apart) at any of the eight MSL locations, ~~Exelon Generation Company~~ will stop power ascension and repair/replace the damaged strain gauges and only then resume power ascension. In addition, sufficient on-dryer strain gauges must remain in working order to monitor all dryer peak stress locations with a minimum alternating stress ratio (MASR) less than 1.5. In the event there are no working on-dryer strain gauges, with coherence of greater than 0.5 with any peak stress location, ~~Exelon Generation Company~~ will: (1) stop power ascension; (2) evaluate the dryer MASR at the current power level and at the projected EPU power level; and (3) provide the results to the NRC Project Manager via e-mail. ~~Exelon Generation Company~~ shall not resume power ascension for at least 24 hours after the NRC Project Manager confirms receipt of the MASR results unless, prior to the expiration of the 24 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension. Furthermore, power ascension may only resume if ~~Exelon Generation Company~~ determines that the dryer MASR will remain greater than 1.0.

the licensee

the licensee

The licensee

the licensee

1. ~~Exelon Generation Company~~ shall provide a brief stress summary report for the replacement steam dryer (RSD) based on MSL strain gauge and on-dryer instrument data collected at or near 3514 MWt for NRC review before increasing power above 3514 MWt. ~~Exelon Generation Company~~ shall also provide a brief vibration summary report for piping and valve vibration data collected at or near 3514 MWt for NRC review before increasing power above 3514 MWt. Both summary reports shall be provided by e-mail to the NRC Project Manager. ~~Exelon Generation Company~~ shall not increase power above 3514 MWt for at least 240 hours after the NRC Project Manager confirms receipt of the reports unless, prior to expiration of the 240 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension. The stress summary report shall include the information in items a through f, and the vibration summary report shall include the information in items g through i, as follows:

The licensee

The licensee

The licensee

- a. A comparison of predicted and measured pressure spectra plots on the RSD.
- b. A comparison of predicted and measured root mean square (RMS) strains and spectra plots on the RSD.
- c. End-to-end bias errors and uncertainties (B/Us) for RSD strains, along with a demonstration that the application of these B/Us leads to RSD strain simulations that bound the measured spectra at dominant frequencies and RMS strains at all active strain gauge locations.

- d. RSD strain gauge limits based on benchmarking performed near 3514 MWt. This will include the predicted RSD strains at each measured location and the corresponding updated MASR near 3514 MWt.
- e. Predicted (extrapolated) strains at the active RSD strain gauge locations at 104% of 3514 MWt and an evaluation against acceptance limits.
- f. Predicted RSD stresses and MASRs at EPU.
- g. Vibration data for piping and valve locations deemed prone to vibration and vibration monitoring locations identified in Attachment 13 to the EPU application dated September 28, 2012, and Supplement 16 dated December 20, 2013, including the following locations: MSLs (including those in the drywell, turbine building and in the steam tunnel), Feedwater Lines (including those in the drywell and turbine building), Safety Relief Valves (SRVs) and Main Steam Isolation Valves in the drywell.
- h. An evaluation of the measured vibration data collected in item 1.g above compared against acceptance limits.
- i. Predicted vibration values and associated acceptance limits at approximately 104 percent, 108 percent, and 112.4 percent of 3514 MWt using the data collected in item 1.g above.

2. ~~Exelon Generation Company~~ shall monitor the RSD strain gauges during power ascension above 3514 MWt for increasing strain fluctuations. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, ~~Exelon Generation Company~~ shall collect data from the RSD strain gauges at nominal 2 percent thermal power increments and evaluate steam dryer stress ratios based on these data. Summaries of the results shall be provided via e-mail to the NRC Project Manager at approximately 104 percent and 108 percent of 3514 MWt.

The licensee

the licensee

3. ~~Exelon Generation Company~~ shall monitor the MSL strain gauges during power ascension above 3514 MWt for increasing pressure fluctuations in the main steam lines. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, ~~Exelon Generation Company~~ shall collect data from the MSL strain gauges and on-dryer instruments at nominal 2 percent thermal power increments.

The licensee

the licensee

4. ~~Exelon Generation Company~~ shall hold the facility at approximately 104 percent and 108 percent of 3514 MWt to perform the following:

The licensee

- a. Collect strain data from the MSL strain gauges and collect data from on-dryer instruments (accelerometers, strain gauges, and pressure transducers).
- b. Collect vibration data for the locations included in the vibration summary report discussed above.
- c. Evaluate steam dryer performance based on RSD strain gauge data.
- d. Evaluate the measured vibration data (collected in item 4.b above) at that power level, data projected to EPU conditions, trends, and comparison with the acceptance limits.
- e. Provide the steam dryer evaluation and the vibration evaluation, including the data collected, via e-mail to the NRC Project Manager, upon completion of the evaluation for each of the two hold points.

f. ~~Exelon Generation Company~~ shall submit a comparison of predicted and measured pressures and strains (RMS and spectra) on the RSD at 104% of 3514 MWt and 108% of 3514 MWt during power ascension.

The licensee

g. ~~Exelon Generation Company~~ shall not increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the evaluations unless, prior to the expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

The licensee

the licensee

5. If any RMS level measured by the active RSD strain gauges exceeds allowable Level 1 limits, ~~Exelon Generation Company~~ shall return the facility to a power level at which the limit(s) is not exceeded. ~~Exelon Generation Company~~ shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to the NRC Project Manager via e-mail prior to further increases in reactor power. If a revised stress analysis is performed and new RSD strain limits are developed, then ~~Exelon Generation Company~~ shall not further increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the documentation or until the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension, whichever comes first. Additional detail is provided in paragraph (b)1 below.

The licensee

the licensee

- (b) ~~Exelon Generation Company~~ shall implement the following actions for the initial power ascension from 3514 MWt to 3951 MWt condition:

The licensee

1. In the event that RMS strain levels for active RSD strain gauges are identified to exceed the allowable Level 1 limits during power ascension above 3514 MWt, ~~Exelon Generation Company~~ shall re-evaluate dryer loads and stresses, and re-establish updated MASRs and RSD strain gauge RMS limits. In the event that stress analyses are re-performed based on new strain gauge data to address paragraph (a)5 above, the revised load definition, stress analysis, and limits shall include:

the licensee

- a. Determination of end-to-end B/Us and their application in determining maximum alternating stress intensities.
- b. Use of bump-up factors associated with all of the SRV acoustic resonances, as determined from the scale model test results or in-plant data acquired during power ascension.

the licensee

2. After reaching 3951 MWt, ~~Exelon Generation Company~~ shall obtain measurements from the MSL strain gauges and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the RSD strain gauge limits based on the updated load definition. These data will be provided to the NRC staff as described below in paragraph (e).

- (c) ~~Exelon Generation Company~~ shall prepare the EPU power ascension test procedure to include:

The licensee

1. The stress limits and the corresponding RSD strain limits to be applied for evaluating steam dryer performance.
2. Specific hold points and their durations during EPU power ascension.
3. Activities to be accomplished during the hold points.
4. Plant parameters to be monitored.
5. Inspections and walkdowns to be conducted for steam, feedwater, and condensate systems and components during the hold points.
6. Methods to be used to trend plant parameters.
7. Acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections.

8. Actions to be taken if acceptance criteria are not satisfied.
9. Verification of the completion of commitments and planned actions specified in the application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3514 MWt. ~~Exelon Generation Company~~ shall provide the related EPU startup test procedure sections to the NRC Project Manager via e-mail prior to increasing power above 3514 MWt.

The licensee

- (d) The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:
 1. During initial power ascension testing above 3514 MWt, each of the two hold points shall be at increments of 4 percent of 3514 MWt.
 2. Level 1 performance criteria.
 3. The methodology for establishing the RSD strain limits used for the Level 1 and Level 2 performance.
- (e) The results of the power ascension testing to verify the continued structural integrity of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall include a final load definition and stress report of the steam dryer, including the results of a complete re-analysis using the end-to-end B/Us determined at EPU conditions and a comparison of predicted and measured pressures and strains (RMS levels and spectra) on the RSD. The report shall be submitted within 90 days of the completion of EPU power ascension testing for Peach Bottom Unit 2.
- (f) During the first two scheduled refueling outages after reaching EPU conditions, a visual inspection shall be conducted of the steam dryer as described in the inspection guidelines contained in WCAP-17635-P.
- (g) The results of the visual inspections of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall be submitted within 90 days following startup from each of the first two respective refueling outages.
- (h) Within 6 months following completion of the second refueling outage, after the implementation of the EPU, the licensee shall submit a long-term steam dryer inspection plan based on industry operating experience along with the baseline inspection results.

The license condition described above shall expire: (1) upon satisfaction of the requirements in paragraphs (f) and (g), provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw(s) or

unacceptable flaw growth that is due to fatigue, and; (2) upon satisfaction of the requirements specified in paragraph (h).

(16) Maximum Extended Load Line Limit Analysis Plus (MELLLA+) Special Consideration

The licensee shall not operate the facility within the MELLLA+ operating domain with a feedwater heater out of service resulting in more than a 10°F reduction in feedwater temperature below the design feedwater temperature.

(17) Adoption of 10 CFR 50.69, "Risk-informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Plants"

In support of implementing License Amendment No. 321 permitting the adoption of the provisions of 10 CFR 50.69 for Renewed Facility Operating License No. DPR-44 for Peach Bottom Unit 2, the license is amended to add the following license condition:

The licensee

- (a) ~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using: Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2 and Class 3 SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in Unit 2 License Amendment No. 321 dated October 25, 2018.

The licensee

~~Exelon~~ will complete the implementation items listed in Attachment 2 of Exelon's letter to the NRC dated June 6, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

(18) This subsequent renewed license is subject to the following conditions for the protection of the environment:

(a) To the extent matters related to thermal discharges are treated therein, operation of Peach Bottom Atomic Power Station Unit No. 2 will be governed by NPDES Permit No. PA 0009733, as now in effect and as hereafter amended. Questions pertaining to conformance thereto shall be referred to and shall be determined by the NPDES Permit issuing or enforcement authority, as appropriate.

licensee

(b) In the event of any modification of the NPDES Permit related to thermal discharges or the establishment (or amendment) of alternative effluent limitations established pursuant to Section 316 of the Federal Water Pollution Control Act, the ~~Exelon Generation Company~~ shall inform the NRC and analyze any associated changes in or to the Station, its components, its operation or in the discharge of effluents therefrom. If such change would entail any modification to this license, or any Technical Specifications which are part of this license, or require NRC approval pursuant to 10 CFR 50.59 or involve an environmental impact different than analyzed in the Final Environmental Statement, the ~~Exelon Generation Company~~ shall file with the NRC, as applicable, an appropriate analysis of any such change on facility safety, and/or an analysis of any such change on the environmental impacts and on the overall cost-benefit balance for facility operation set forth in the Final Environmental Statement and a request for an amendment to the operating license, if required by the Commission's regulations. As used in this Condition (18)(b), Final Environmental Statement (FES) means the NRC Staff Final Environmental Statement related to Operation of Peach Bottom Atomic Power Station Units Nos. 2 and 3 dated April 1973, as modified by (1) the Initial Decision of the Atomic Safety and Licensing Board dated September 14, 1973, (2) the Supplemental Initial Decision of the Atomic Safety and Licensing Board dated June 14, 1974, (3) the Decision of the Atomic Safety and Licensing Appeal Board dated July 5, 1974, (4) the Memorandum and Order of the Commission dated August 8, 1974, (5) any further modification resulting from further review by the Appeal Board and by the Commission, if any, and (6) any Environmental Impact Appraisal which has been or may be issued by the NRC since the FES was published in April 1973.

licensee

(19) Subsequent Renewed License Conditions.

(a) The information in the Updated Final Safety Analysis Report (UFSAR) supplement submitted pursuant to 10 CFR 54.21(d), as revised during the subsequent license renewal application review process, and ~~Exelon Generation Company~~ commitments as listed in Appendix A of the "Safety Evaluation Report Related to the Subsequent License Renewal of Peach Bottom Atomic Power Station, Units 2 and 3," dated February 2020, are collectively the "Subsequent License Renewal UFSAR Supplement." This

Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, ~~Exelon Generation Company~~ may make changes to the programs, activities, and commitments described in the Subsequent License Renewal UFSAR Supplement, provided ~~Exelon Generation Company~~ evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests, and Experiments," and otherwise complies with the requirements in that section.

- (b) The Subsequent License Renewal UFSAR Supplement, as defined in subsequent renewed license condition (19)(a) above, describes programs to be implemented and activities to be completed prior to the subsequent period of extended operation, which is the period following the August 8, 2033, expiration of the initial renewed license.

1. ~~Exelon Generation Company~~ shall implement those new programs and enhancements to existing programs no later than 6 months before the subsequent period of extended operation.
[SPINCO]
2. ~~Exelon Generation Company~~ shall complete those activities by the 6-month date prior to the subsequent period of extended operation or by the end of the last refueling outage before the subsequent period of extended operation, whichever occurs later.
[SPINCO]
3. ~~Exelon Generation Company~~ shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.
[SPINCO]

3. This subsequent renewed license is effective as of the date of issuance and shall expire at midnight on August 8, 2053.

FOR THE UNITED STATES NUCLEAR REGULATORY
COMMISSION

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Attachments:

Appendix A - Technical Specifications Peach Bottom Atomic Power Station Unit 2
Appendix B - Environmental Protection Plan

Date of Issuance: March 5, 2020

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

- 5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]





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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

PSEG NUCLEAR, LLC

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

SUBSEQUENT RENEWED FACILITY OPERATING LICENSE

Subsequent Renewed License No. DPR-56

1. The U.S. Nuclear Regulatory Commission (the Commission) having previously made the findings set forth in Renewed License No. DPR-56 issued May 7, 2003 has now found that:

- A. The application for Subsequent Renewed Facility Operating License No. DPR-56 filed by Exelon Generation Company LLC (Exelon Generation Company) and PSEG Nuclear LLC (PSEG Nuclear)(the licensee) 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, and all required notifications to other agencies or bodies have been duly made;
- B. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the subsequent 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 subsequent renewed license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for Peach Bottom Atomic Power Station, Unit No. 3, and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
- C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
- D. There is reasonable assurance: (1) that the activities authorized by this subsequent renewed license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission;

[SPINCO]

- E. ~~Exelon Generation Company~~ is technically qualified, and the licensees are financially qualified to engage in the activities authorized by this subsequent renewed license in accordance with the rules and regulations of the Commission;
- F. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
- G. The issuance of this subsequent renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the Commission concludes that the issuance of Subsequent Renewed Facility Operating License No. DPR-56 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
- I. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by the subsequent renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Sections 30.33, 40.32, 70.23 and 70.31.
2. On the basis of the forgoing findings regarding this facility, Renewed Facility Operating License No. DPR-56, issued May 7, 2003, is superseded by Subsequent Renewed Facility Operating License No. DPR-56, which is hereby issued to the ~~Exelon Generation Company~~ and PSEG Nuclear, licensees, to read as follows:
- A. This subsequent renewed license applies to the Peach Bottom Atomic Power Station, Unit 3, a single-cycle, forced-circulation boiling water nuclear reactor and associated equipment (the facility), owned by the licensees and operated by ~~Exelon Generation Company~~. The facility is located partly in Peach Bottom Township, York County, partly in Drumore Township, Lancaster County, and partly in Fulton Township, Lancaster County in southeastern Pennsylvania, 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) ~~Exelon Generation Company~~, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility and PSEG Nuclear to possess the facility at the designated location in Peach Bottom, York County, Pennsylvania in accordance with the procedures and limitations set forth in this license;

- (2) ~~Exelon Generation Company~~, 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;
- (3) ~~Exelon Generation Company~~, 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;
- (4) ~~Exelon Generation Company~~, 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 when associated with radioactive apparatus or components;
- (5) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Limerick Generating Station, Units 1 and 2.

C. This subsequent 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, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

(1) Maximum Power Level

~~Exelon Generation Company~~ is authorized to operate the Peach Bottom Atomic Power Station, Unit No. 3, at steady state reactor core power levels not in excess of 4016 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 338, are hereby incorporated in the license.

~~Exelon Generation Company~~ shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹ submitted by letter dated May 17, 2006, is entitled: "Peach Bottom Atomic Power Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program, Revision 3." The set contains Safeguards Information protected under 10 CFR 73.21.

[SPINCO]

~~Exelon Generation Company~~ 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 283 and modified by Amendment No. 304.

(4) Fire Protection

[SPINCO]

~~The Exelon Generation Company~~ shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility, and as approved in the NRC Safety Evaluation Report (SER) dated May 23, 1979, and Supplements dated August 14, September 15, October 10 and November 24, 1980, and in the NRC SERs dated September 16, 1993, and August 24, 1994, subject to the following provision:

[SPINCO]

~~The Exelon Generation Company~~ 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.

(5) Public Service Electric & Gas Company (PSE&G) to PSEG Nuclear License Transfer Conditions

(a) Deleted.

(b) Deleted.

(c) PSEG Nuclear, shall not take any action that would cause PSEG Power, LLC or its parent companies to void, cancel, or diminish the commitment to fund an extended plant shutdown as represented in the application for approval of the transfer of this license from PSE&G to PSEG Nuclear.

[SPINCO]

(6) ~~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

[SPINCO]

¹ The Training and Qualification Plan and Safeguards Contingency Plan and Appendices to the Security Plan.

[SPINCO's]

(10%) of ~~Exelon Generation Company's~~ consolidated net utility plant, as recorded on ~~Exelon Generation Company's~~ books of account.

(7) Deleted.

[SPINCO's]

(8) Deleted.

(9) Deleted.

(10) Additional Conditions of the Renewed License

(a) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement, as revised on January 31, 2003, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following the issuance of this renewed license. Until that update is complete, the ~~Exelon Generation Company~~ may make changes to the programs described in the supplement without prior Commission approval, provided that the ~~Exelon Generation Company~~ evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

licensee

licensee

(b) Future Inspection Activities

The ~~Exelon Generation Company~~ Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on January 31, 2003, describes certain future inspection activities to be completed before the period of extended operation. The ~~Exelon Generation Company~~ shall complete these activities no later than July 2, 2014, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

licensee

(c) Integrated Surveillance Program

The ~~Exelon Generation Company~~ shall implement an NRC staff-approved reactor vessel integrated surveillance program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved Boiling Water Reactor Vessel and Internals Project program or through a staff-approved plant-specific program. Before July 2, 2014, the licensee will notify the NRC of its decision to implement the integrated surveillance program or a plant-specific program, and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the vessel surveillance material testing program.

[SPINCO]

(d) Core Shroud Inspection and Evaluation Guidelines Program

[SPINCO]

~~The Exelon Generation Company~~ shall implement an NRC staff-approved core shroud inspection and evaluation guidelines program for the extended period of operation which satisfies the requirements of 10 CFR Part 54. Such a program will be implemented through a staff-approved Boiling Water Reactor Vessel and Internals Project program or through a staff-approved, plant-specific program. Before July 2, 2014, the licensee will notify the NRC of its decision to implement the core shroud inspection and evaluation guidelines program or a plant-specific program, and provide the appropriate revisions to the Updated Final Safety Analysis Report Supplement summary descriptions of the core shroud inspection and evaluation guidelines program.

(11) Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- (12) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- (13) Deleted

(14) Spent Fuel Pool Criticality Considerations

- (a) Use of spent fuel pool storage cells without NETCO-SNAP-IN® rack inserts shall be restricted as follows:
- 1) Minimum panel Boron-10 areal density of a storage cell shall be greater than or equal to 0.014 grams per square centimeter to store fuel assemblies with the maximum in-core cold k-infinity of up to 1.235 (except as noted in a.3 below for restricted cells). The minimum panel Boron-10 areal density shall be evaluated by assuming that the panel areal density was initially equal to a value of 0.0235 grams per square centimeter.
 - 2) A storage cell shall not contain any fuel assembly if the minimum panel Boron-10 areal density of a storage cell is less than 0.014 grams per square centimeter (except as noted in a.3 below for restricted cells). The minimum panel Boron-10 areal density shall be evaluated by assuming that the panel areal density was initially equal to a value of 0.0235 grams per square centimeter.
 - 3) For the period up to December 31, 2013, cells whose minimum panel Boron-10 areal density is between 0.014 grams per square centimeter and 0.0112 grams per square centimeter may be used as restricted cells. Restricted cells will only contain Peach Bottom Unit 3 GE14 fuel assemblies with an assembly average burnup of greater than 47,400 megawatt days per metric ton. The minimum panel Boron-10 areal density shall be evaluated by assuming that the panel areal density was initially equal to a value of 0.0235 grams per square centimeter.
- (b) Until the installation of NETCO-SNAP-IN® rack inserts are completed in the Peach Bottom Unit 3 spent fuel pool, Boraflex degradation shall be monitored analytically every 6 months.
- (c) Boraflex degradation shall be monitored by in-situ testing in the Peach Bottom Unit 3 spent fuel pool no later than December 31, 2013, unless installation of the NETCO-SNAP-IN® rack inserts for Unit 3 have been completed prior to this date.
- (d) Installation of NETCO-SNAP-IN® rack inserts shall be completed by December 31, 2016.

(15) Potential Adverse Flow Effects

In conjunction with the license amendment to revise paragraph 2.C(1) of Renewed Facility Operating License No. DPR-56, for Peach Bottom Unit 3, to reflect the new maximum licensed reactor core power level of 3951 megawatts thermal (MWt), the license is also amended to add the following

license condition. This license condition provides for monitoring, evaluating, and taking prompt action in response to potential adverse flow effects as a result of power uprate operation on plant structures, systems, and components (including verifying the continued structural integrity of the steam dryer). This license condition is applicable to the initial power ascension from 3514 MWt to the extended power uprate (EPU) power level of 3951 MWt:

- (a) The following requirements are placed on the initial operation of the facility, above the thermal power level of 3514 MWt, for the power ascension to 3951 MWt. These conditions are applicable until the first time full EPU conditions (3951 MWt) are achieved. If the number of active main steam line (MSL) strain gauges is less than two strain gauges (180 degrees apart) at any of the eight MSL locations, ~~Exelon Generation Company~~ will stop power ascension and repair/replace the damaged strain gauges and only then resume power ascension.

the licensee

1. At least 30 days prior to the start of the Peach Bottom Unit 3 EPU outage, ~~Exelon Generation Company~~ shall revise the Peach Bottom Unit 3 replacement steam dryer (RSD) analysis utilizing the Unit 2 on-dryer strain gauge based end-to-end Bias errors and Uncertainties (B/Us) at EPU conditions, and submit the information including the updated limit curves and a list of dominant frequencies for Unit 3, to the NRC as a report in accordance with 10 CFR 50.4.

the licensee

2. ~~Exelon Generation Company~~ shall evaluate the Unit 3 limit curves prepared in (a)1 above based on new MSL strain gauge data collected following the Unit 3 EPU outage at or near 3514 MWt. If the limit curves change, the new post-EPU outage limit curves shall be provided by e-mail to the NRC Project Manager. ~~Exelon Generation Company~~ shall not increase power above 3514 MWt for at least 96 hours after the NRC Project Manager confirms receipt of the reports unless, prior to expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

The licensee

The licensee

3. ~~Exelon Generation Company~~ shall provide a brief vibration summary report, for piping and valves vibration data collected at or near 3514 MWt, for NRC review before increasing power above 3514 MWt. The summary report shall be provided by e-mail to the NRC Project Manager. ~~Exelon Generation Company~~ shall not increase power above 3514 MWt for at least 96 hours after the NRC Project Manager confirms receipt of the report unless, prior to expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension. The vibration summary report shall include the information in items a through c, as follows:

The licensee

The licensee

- a. Vibration data for piping and valve locations deemed prone to vibration and vibration monitoring locations identified in Attachment 13 to the EPU application dated September 28, 2012, and Supplement 16 dated December 20, 2013, including the following locations: MSLs (including those in the drywell, turbine building and in the steam tunnel), Feedwater Lines (including those in the drywell and turbine building), Safety Relief Valves (SRVs) and the Main Steam Isolation Valves in the drywell.
- b. An evaluation of the measured vibration data collected in item 3.a above compared against acceptance limits.
- c. Predicted vibration values and associated acceptance limits at approximately 104 percent, 108 percent and 112.4 percent of 3514 MWt using the data collected in item 3.a above.

4. ~~Exelon Generation Company~~ shall monitor the MSL strain gauges during power ascension above 3514 MWt for increasing pressure fluctuations in the steam lines. Upon the initial increase of power above 3514 MWt until reaching 3951 MWt, ~~Exelon Generation Company~~ shall collect data from the MSL strain gauges at nominal 2 percent thermal power increments and evaluate steam dryer performance based on this data.

The licensee

the licensee

the licensee

5. During power ascension at each nominal 2 percent power level above 3514 MWt, ~~Exelon Generation Company~~ shall compare the MSL data to the approved limit curves based on end-to-end B/Us from the Peach Bottom Unit 2 benchmarking at EPU conditions and determine the minimum alternating stress ratio (MASR). A summary of the results shall be provided for NRC review at approximately 104 percent and 108 percent of 3514 MWt. The summary report shall be provided to the NRC Project Manager via e-mail.

6. ~~Exelon Generation Company~~ shall hold the facility at approximately 104 percent and 108 percent of 3514 MWt to perform the following:

The licensee

- a. Collect strain data from the MSL strain gauges.
- b. Collect vibration data for the locations included in the vibration summary report discussed above.
- c. Evaluate steam dryer performance based on MSL strain gauge data.

- d. Evaluate the measured vibration data (collected in item 6.b above) at that power level, data projected to EPU conditions, trends, and comparison with the acceptance limits.
- e. Provide the steam dryer evaluation and the vibration evaluation, including the data collected, via e-mail to the NRC Project Manager, upon completion of the evaluation for each of the hold points.
- f. ~~Exelon Generation Company~~ shall not increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the evaluations unless, prior to the expiration of the 96 hour period, the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension.

The licensee

the licensee

- 7. If any frequency peak from the MSL strain gauge data exceeds the Level 1 limit curves, ~~Exelon Generation Company~~ shall return the facility to a power level at which the limit curve is not exceeded. ~~Exelon Generation Company~~ shall resolve the discrepancy, evaluate and document the continued structural integrity of the steam dryer, and provide that documentation to the NRC Project Manager via e-mail prior to further increases in reactor power. If a revised stress analysis is performed and new limit curves are developed, then ~~Exelon Generation Company~~ shall not further increase power above each hold point until 96 hours after the NRC Project Manager confirms receipt of the documentation or until the NRC Project Manager advises that the NRC staff has no objections to the continuation of power ascension, whichever comes first. Additional detail is provided in paragraph (b)1 below.

The licensee

the licensee

- (b) ~~Exelon Generation Company~~ shall implement the following actions for the initial power ascension from 3514 MWt to 3951 MWt condition:

The licensee

the licensee

- 1. In the event that acoustic signals (in MSL strain gauge signals) are identified that exceed the Level 1 limit curves during power ascension above 3514 MWt, ~~Exelon Generation Company~~ shall re-evaluate dryer loads and stresses, and re-establish the limit curves. In the event that stress analyses are reperformed based on new strain gauge data to address paragraph (a)7 above, the revised load definition, stress analysis, and limit curves shall include:
 - a. Application of end-to-end B/Us as determined from Peach Bottom Unit 2 EPU measurements.
 - b. Use of bump-up factors associated with all of the SRV acoustic resonances as determined from the scale model

test results or in-plant data acquired during power ascension.

the licensee

2. After reaching 3951 MWt, ~~Exelon Generation Company~~ shall obtain measurements from the MSL strain gauges and establish the steam dryer flow-induced vibration load fatigue margin for the facility, update the dryer stress report, and re-establish the limit curves with the updated load definition. These data will be provided to the NRC staff as described below in paragraph (e).

- (c) ~~Exelon Generation Company~~ shall prepare the EPU power ascension test procedure to include:

The licensee

1. The MSL strain gage limit curves to be applied for evaluating steam dryer performance, based on end-to-end B/Us from Peach Bottom Unit 2 benchmarking at EPU conditions.
2. Specific hold points and their durations during EPU power ascension.
3. Activities to be accomplished during the hold points.
4. Plant parameters to be monitored.
5. Inspections and walkdowns to be conducted for steam, feedwater, and condensate systems and components during the hold points
6. Methods to be used to trend plant parameters.
7. Acceptance criteria for monitoring and trending plant parameters, and conducting the walkdowns and inspections.
8. Actions to be taken if acceptance criteria are not satisfied.
9. Verification of the completion of commitments and planned actions specified in the application and all supplements to the application in support of the EPU license amendment request pertaining to the steam dryer prior to power increase above 3514 MWt. ~~Exelon Generation Company~~ shall provide the related EPU startup test procedure sections to the NRC Project Manager via e-mail prior to increasing power above 3514 MWt.

The licensee

- (d) The following key attributes of the program for verifying the continued structural integrity of the steam dryer shall not be made less restrictive without prior NRC approval:

1. During initial power ascension testing above 3514 MWt, each of the two hold points shall be at increments of approximately 4 percent of 3514 MWt.

2. Level 1 performance criteria.
 3. The methodology for establishing the limit curves used for the Level 1 and Level 2 performance.
- (e) The results of the power ascension testing to verify the continued structural integrity of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall include a final load definition and stress report of the steam dryer, including the results of a complete re-analysis using the end-to-end B/Us from Peach Bottom Unit 2 benchmarking at EPU conditions. The report shall be submitted within 90 days of the completion of EPU power ascension testing for Peach Bottom Unit 3.
 - (f) During the first two scheduled refueling outages after reaching EPU conditions, a visual inspection shall be conducted of the steam dryer as described in the inspection guidelines contained in WCAP-17635-P.
 - (g) The results of the visual inspections of the steam dryer shall be submitted to the NRC staff in a report in accordance with 10 CFR 50.4. The report shall be submitted within 90 days following startup from each of the first two respective refueling outages.
 - (h) Within 6 months following completion of the second refueling outage, after the implementation of the EPU, the licensee shall submit a long-term steam dryer inspection plan based on industry operating experience along with the baseline inspection results.

The license condition described above shall expire: (1) upon satisfaction of the requirements in paragraphs (f) and (g), provided that a visual inspection of the steam dryer does not reveal any new unacceptable flaw(s) or unacceptable flaw growth that is due to fatigue, and; (2) upon satisfaction of the requirements specified in paragraph (h).

(16) Maximum Extended Load Line Limit Analysis Plus (MELLLA+) Special Consideration

The licensee shall not operate the facility within the MELLLA+ operating domain with a feedwater heater out of service resulting in more than a 10°F reduction in feedwater temperature below the design feedwater temperature.

(17) Adoption of 10 CFR 50.69, "Risk-informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Plants"

In support of implementing License Amendment No. 324 permitting the adoption of the provisions of 10 CFR 50.69 for Renewed Facility Operating License No. DPR-56 for Peach Bottom Unit 3, the license is amended to add the following license condition:

The licensee

- (a) ~~Exelon~~ is approved to implement 10 CFR 50.69 using the processes for categorization of Risk-Informed Safety Class (RISC)-1, RISC-2, RISC-3, and RISC-4 structures, systems, and components (SSCs) using: Probabilistic Risk Assessment (PRA) models to evaluate risk associated with internal events, including internal flooding, and internal fire; the shutdown safety assessment process to assess shutdown risk; the Arkansas Nuclear One, Unit 2 (ANO-2) passive categorization method to assess passive component risk for Class 2 and Class 3 SSCs and their associated supports; and the results of non-PRA evaluations that are based on the IPEEE Screening Assessment for External Hazards, i.e., seismic margin analysis (SMA) to evaluate seismic risk, and a screening of other external hazards updated using the external hazard screening significance process identified in ASME/ANS PRA Standard RA-Sa-2009; as specified in Unit 3 License Amendment No. 324 dated October 25, 2018.

The licensee

~~Exelon~~ will complete the implementation items listed in Attachment 2 of Exelon's letter to the NRC dated June 6, 2018, prior to implementation of 10 CFR 50.69. All issues identified in the attachment will be addressed and any associated changes will be made, focused-scope peer reviews will be performed on changes that are PRA upgrades as defined in the PRA standard (ASME/ANS RA-Sa-2009, as endorsed by RG 1.200, Revision 2), and any findings will be resolved and reflected in the PRA of record prior to implementation of the 10 CFR 50.69 categorization process.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from a seismic margins approach to a seismic probabilistic risk assessment approach).

- (18) This subsequent renewed license is subject to the following conditions for the protection of the environment:

- (a) To the extent matters related to thermal discharges are treated therein, operation of Peach Bottom Atomic Power Station, Unit No. 3, will be governed by NPDES Permit No. PA 0009733, as now in effect and as hereafter amended. Questions pertaining to conformance thereto shall be referred to and shall be determined by the NPDES Permit issuing or enforcement authority, as appropriate.

licensee

- (b) In the event of any modification of the NPDES Permit related to thermal discharges or the establishment (or amendment) of alternative effluent limitations established pursuant to Section 316 of the Federal Water Pollution Control Act, the ~~Exelon Generation Company~~ shall inform the NRC and analyze any associated changes in or to the Station, its components, its operation or in the discharge of effluents therefrom. If such change would entail any modification to this license, or any Technical Specifications which are part of this license, or require NRC approval pursuant to 10 CFR 50.59 or

licensee

involve an environmental impact different than analyzed in the Final Environmental Statement, the ~~Exelon Generation Company~~ shall file with the NRC, as applicable, an appropriate analysis of any such change on facility safety, and/or an analysis of any such change on the environmental impacts and on the overall cost-benefit balance for facility operation set forth in the Final Environmental Statement and a request for an amendment to the operating license, if required by the Commission's regulations. As used in this Condition (18)(b), Final Environmental Statement (FES) means the NRC Staff Final Environmental Statement related to Operation of Peach Bottom Atomic Power Station, Units Nos. 2 and 3, dated April 1973, as modified by (1) the Initial Decision of the Atomic Safety and Licensing Board dated September 14, 1973, (2) the Supplemental Initial Decision of the Atomic Safety and Licensing Board dated June 14, 1974, (3) the Decision of the Atomic Safety and Licensing Appeal Board dated July 5, 1974, (4) the Memorandum and Order of the Commission dated August 8, 1974, (5) any further modification resulting from further review by the Appeal Board and by the Commission, if any, and (6) any Environmental Impact Appraisal which has been or may be issued by the NRC since the FES was published in April 1973.

(19) Subsequent Renewed License Conditions

- (a) The information in the Updated Final Safety Analysis Report (UFSAR) supplement submitted pursuant to 10 CFR 54.21(d), as revised during the subsequent license renewal application review process, and ~~Exelon Generation Company~~ commitments as listed in Appendix A of the "Safety Evaluation Report Related to the Subsequent License Renewal of Peach Bottom Atomic Power Station, Units 2 and 3," dated February 2020, are collectively the "Subsequent License Renewal UFSAR Supplement." This Supplement is henceforth part of the UFSAR, which will be updated in accordance with 10 CFR 50.71(e). As such, ~~Exelon Generation Company~~ may make changes to the programs, activities, and commitments described in the Subsequent License Renewal UFSAR Supplement, provided ~~Exelon Generation Company~~ evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59, "Changes, Tests, and Experiments," and otherwise complies with the requirements in that section.

the licensee

the licensee

- (b) The Subsequent License Renewal UFSAR Supplement, as defined in subsequent renewed license condition (19)(a) above, describes programs to be implemented and activities to be completed prior to the subsequent period of extended operation, which is the period following the July 2, 2034, expiration of the initial renewed license.

1. ~~Exelon Generation Company~~ shall implement those new programs and enhancements to existing programs no later than 6 months before the subsequent period of extended operation.

[SPINCO]

2. ~~Exelon Generation Company~~ shall complete those activities by the 6-month date prior to the subsequent period of extended operation or by the end of the last refueling outage before the subsequent period of extended operation, whichever occurs later.
3. ~~Exelon Generation Company~~ shall notify the NRC in writing within 30 days after having accomplished item (b)1 above and include the status of those activities that have been or remain to be completed in item (b)2 above.

3. This subsequent renewed license is effective as of the date of issuance and shall expire at midnight on July 2, 2054.

FOR THE UNITED STATES NUCLEAR
REGULATORY COMMISSION

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Attachments:

Appendix A - Technical Specifications Peach Bottom Atomic Power Station Unit No. 3
Appendix B - Environmental Protection Plan

Date of Issuance: March 5, 2020

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

- 5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 11

Quad Cities Nuclear Power Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

EXELON GENERATION COMPANY, LLC[SPINCO]

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-29

The U.S. Nuclear Regulatory Commission (Commission) having previously made the findings set forth in License No. DPR-29 issued on December 14, 1972, has now found that:

- a. The application to renew License No. DPR-29 filed by the Exelon Generation Company, LLC*, acting for itself and MidAmerican Energy Company, 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, and all required notifications to other agencies or bodies have been duly made;
- b. 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 Quad Cities Nuclear Power Station, Unit 1 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
- c. Construction of the Quad Cities Nuclear Power Station Unit 1 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-23 and the application, as amended, the provisions of the Act, and the rules and regulations of the Commission set forth in 10 CFR Chapter I;
- d. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000. **The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- e. 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 rules and regulations of the Commission;
- f. ~~Exelon Generation Company, LLC (EGG)~~**[SPINCO]**, and the MidAmerican Energy Company are technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
- g. ~~EGG~~**[SPINCO]** (the licensee) and the MidAmerican Energy Company have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements";
- 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. In accordance with the requirements of Appendix D of 10 CFR Part 50, Facility Operating License No. DPR-29 should be amended to authorized full-power operation subject to the conditions for protection of the environment referred to in paragraph 8 of the Summary and Conclusions section of the Final Environmental Statement dated September 1972 and set forth in the Technical Specifications incorporated herein; and
- j. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. DPR-29 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-29, issued December 14, 1972, is superseded by Renewed Facility Operating License No. DPR-29, which is hereby issued to ~~EGG~~**[SPINCO]** and MidAmerican Energy Company, to read as follows:

- 1. This renewed operating license applies to the Quad Cities Nuclear Power Station, Unit 1, a single cycle, boiling, light-water reactor and electric generating equipment (the facility). The facility is part of the Quad Cities Nuclear Power Station located in Rock Island County, Illinois, and is described in the application for construction permit and facility license dated May 31, 1966, and subsequent amendments thereto, including the application amendment dated August 30, 1968, as amended, for the full-power license and the Environmental Report dated November 12, 1970, as supplemented November 1, 1971, and thereafter.
- 2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~EGG~~**[SPINCO]** and MidAmerican Energy, pursuant to Section 104b of the Act and

10 CFR Part 50, "Licensing of Production and Utilization Facilities," to own the facility, as their interests appear in the application, and hereby licenses **EGG[SPINCO]** (the **licensee**), acting for itself and as agent for MidAmerican Energy:

- A. Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities", to possess, use, and operate the facility as a utilization facility at the location designated in the application, in accordance with the procedures and limitations described in the application and in this license;
 - B. Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear materials, not including plutonium, as reactor fuel, in accordance with the limitations for storage and amounts required for operation as described in the Final Safety Analysis Report, as supplemented and amended;
 - C. Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time up to 8 kilograms of plutonium for use in connection with operation of the facility;
 - D. 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 materials as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts required;
 - E. 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 materials without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and
 - F. 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 Quad Cities Nuclear Power Station, Unit Nos. 1 and 2.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations set forth 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; 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:
- A. Maximum Power Level
EGG[SPINCO] is authorized to operate Quad Cities Unit No. 1 at power levels not in excess of 2957 megawatts (thermal).

B. Technical Specifications

Am. 283
07/10/20

The Technical Specifications contained in Appendix A, as revised through Amendment No. 283, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. The licensee shall maintain the commitments made in response to the March 14, 1983, NUREG-0737 Order, subject to the following provision:

The licensee may make changes to commitments made in response to the March 14, 1983, NUREG-0737 Order without prior approval of the Commission as long as the change would be permitted without NRC approval, pursuant to the requirements of 10 CFR 50.59. Consistent with this regulation, if the change results in an Unreviewed Safety Question, a license amendment shall be submitted to the NRC staff for review and approval prior to implementation of the change.

D. Equalizer Valve Restriction

Three of the four valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation with one bypass valve open to allow for thermal expansion of water.

NRC Ltr
05/16/07

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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined sets of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Quad Cities Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

Am. 259
07/30/15

~~Exelon Generation Company~~[SPINCO] 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 249 as modified by License Amendment No. 259.

F. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- 5 -

for the facility and as approved in the Safety Evaluation Reports dated July 27, 1979, with supplements dated November 5, 1980, and

February 12, 1981; December 30, 1982; December 1, 1987 with supplement dated April 20, 1988; December 11, 1987 with supplement dated July 21, 1988; and February 25, 1991, subject to the following provision:

The licensee 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.

- G. Deleted
- H. Deleted by incorporation into 3.E above, per Amendment No. 64 dated March 19, 1981.
- I. (Open)
- J. Deleted
- K. Deleted by Amendment No. 103 dated December 15, 1987.
- L. Deleted
- M. Deleted
- N. Deleted
- O. ~~EGG~~-[SPINCO] shall provide 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 ~~EGG~~-[SPINCO] 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 ~~EGG's~~-[SPINCO's] consolidated net utility plant, as recorded on ~~EGG's~~-[SPINCO's] books of account.

Amd 280
04/06/20
Amd 280
04/06/20

P. Deleted

Q. Deleted

Amd 280
04/06/20

- R. Deleted.
- S. ~~EGG~~**[SPINCO]**~~EGG~~ shall relocate certain Technical Specification requirements to ~~EGG~~**licensee**-controlled documents upon implementation of Amendment No. 199. The items and appropriate documents are as described in Table LA, "Removal of Details Matrix," and Table R, "Relocated Specifications," that are attached to the NRC's Safety Evaluation enclosed with Amendment No. 199.
- T. The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 199 shall be as follows:
- For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of Amendment No. 199.
- For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of Amendment No. 199.
- For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of Amendment No. 199.
- For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of Amendment No. 199.
- U. Deleted

- V. The license is amended to authorize changing the UFSAR to allow credit for containment overpressure as detailed below, to assure adequate Net Positive Suction Head is available for low pressure Emergency Core Cooling System pumps following a design-basis accident.

From (sec)	To (sec)	Credit (psig)
Accident start	290	8.0
290	5,000	4.8
5,000	44,500	6.7
44,500	52,500	6.0
52,500	60,500	5.5
60,500	75,000	4.7
75,000	95,000	3.8
95,000	115,000	3.0
115,000	155,000	2.3
155,000	Accident end	1.8

- W. Updated Final Safety Analysis Report

The ~~Exelon Generation Company, LLC~~ Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. The ~~Exelon Generation Company, LLC~~ licensee shall complete these activities no later than December 14, 2012, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. ~~Until that update is complete, Exelon Generation Company, LLC~~ [SPINCO] may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ~~Exelon Generation Company, LLC~~ the licensee evaluates such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- X. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of 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.

NRC Ltr. Y. Mitigation Strategy License Condition
08/09/07

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

NRC Ltr. Z. The licensee shall implement and maintain all Actions required by
08/09/07 Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

Am. 238 AA. Upon implementation of Amendment No. 238 adopting TSTF-448, Revision 3, the
3/20/08 determination of control room envelope (CRE) unfiltered air leakage as required by SR 3.7.4.4, in accordance with TS 5.5.13.c(i), the assessment of CRE habitability as required by Specification 5.5.13.c(ii), and the measurement of CRE pressure as required by Specification 5.5.13.d, shall be considered met. Following implementation:

- (1) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.13.c(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from September 21, 2006, the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (2) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from September 21, 2006, the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- (3) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.

Am. 253 BB. While fuel assemblies are in the spent fuel pools (SFPs) for Quad Cities Nuclear
12/31/14 Power Station Units 1 and 2, the licensee shall implement and maintain a Rack Insert Surveillance Program (RISP) to ensure the timely identification and mitigation of degradation of the aluminum boron carbide rack inserts in either unit's SFP. The RISP must:

- (1) Ensure that coupon evaluations of Boron-10 areal densities are performed by a qualified laboratory;
- (2) Ensure that insert evaluations are performed to verify that any service wear is within expected parameters;
- (3) Ensure that the evaluations are performed at intervals not to exceed four years for coupon Boron-10 areal density, and 10 years for insert service wear;

- (4) Ensure that if any inserts are identified as potentially failing the minimum certified Boron-10 areal density criterion, based on correlation of the coupon evaluation or insert service wear evaluation results to inserts, or other abnormal indications, [SPINCO]EGG will take affected inserts out of service until it can be positively demonstrated that the minimum certified Boron-10 areal density criterion (0.0116 g/cm^2) is met for each insert; and,
 - (5) Submit a report to the NRC, within 90 days following completion of evaluations associated with Item 4 above, that describes the testing results, assessments performed, and interim and long-term corrective actions for abnormal indications.
4. This renewed operating license is effective as of the date of issuance and shall expire at midnight on December 14, 2032.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

- 1. Appendix A – Technical Specifications
- 2. Appendix B – Environmental Protection Plan

Date of Issuance: October 28, 2004

APPENDIX B

TO FACILITY OPERATING LICENSE NO. DPR-29

QUAD-CITIES STATION

UNIT 1

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-254

ENVIRONMENTAL PROTECTION PLAN

(NON-RADIOLOGICAL)

EXELON GENERATION COMPANY, LLC[SPINCO]

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

RENEWED FACILITY OPERATING LICENSE NO. DPR-30

The U.S. Nuclear Regulatory Commission (Commission) having previously made the findings set forth in License No. DPR-30 issued on December 14, 1972, has now found that:

- a. The application to renew License No. DPR-30 filed by the Exelon Generation Company, LLC*, acting for itself and MidAmerican Energy Company, 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, and all required notifications to other agencies or bodies have been duly made;
- b. 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 Quad Cities Nuclear Power Station, Unit 2 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
- c. Construction of the Quad Cities Nuclear Power Station Unit 2 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-24 and the application, as amended, the provisions of the Act, and the rules and regulations of the Commission set forth in 10 CFR Chapter I;
- d. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000. **The Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- e. 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 rules and regulations of the Commission;
- f. ~~Exelon Generation Company, LLC (EGG)~~**[SPINCO]**, and the MidAmerican Energy Company are technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
- g. ~~EGG~~**[SPINCO]** (the licensee) and the MidAmerican Energy Company have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements";
- 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. In accordance with the requirements of Appendix D of 10 CFR Part 50, Facility Operating License No. DPR-30 should be amended to authorized full-power operation subject to the conditions for protection of the environment referred to in paragraph 8 of the Summary and Conclusions section of the Final Environmental Statement dated September 1972 and set forth in the Technical Specifications incorporated herein; and
- j. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. DPR-30 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-30, issued December 14, 1972, is superseded by Renewed Facility Operating License No. DPR-30, which is hereby issued to ~~EGG~~**[SPINCO]** and MidAmerican Energy Company, to read as follows:

1. This renewed operating license applies to the Quad Cities Nuclear Power Station, Unit 2, a single cycle, boiling, light-water reactor and electric generating equipment (the facility) which is jointly owned by ~~EGG~~**[SPINCO]** and MidAmerican Energy. The facility is part of the Quad Cities Nuclear Power Station located in Rock Island County, Illinois, and is described in the application for construction permit and facility license dated May 31, 1966, and subsequent amendments thereto, including the application amendment dated August 30, 1968, as amended, for the full-power license and the Environmental Report dated November 12, 1970, as supplemented November 1, 1971, and thereafter.
2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~EGG~~**[SPINCO]** and MidAmerican Energy, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to

own the facility, as their interests appear in the application, and hereby licenses ~~EGG~~[SPINCO] (the licensee), acting for itself and as agent for MidAmerican Energy:

- A. Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the location designated in the application, in accordance with the procedures and limitations set forth in this renewed operating license;
 - B. Pursuant to the Act and 10 CFR Part 70 to receive, possess and use at any time special nuclear materials, not including plutonium, as reactor fuel, in accordance with the limitations for storage and amounts required for operation as described in the Final Safety Analysis Report, as supplemented and amended;
 - C. 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 materials as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts required;
 - D. 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 materials without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and
 - E. 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 Quad Cities Nuclear Power Station, Unit Nos. 1 and 2.
3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations set forth 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; 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:
- A. Maximum Power Level

~~EGG~~[SPINCO] is authorized to operate Quad Cities Unit No. 2 at power levels not in excess of 2957 megawatts (thermal).

B. Technical Specifications

Am. 279
07/10/20

The Technical Specifications contained in Appendix A, as revised through Amendment No. 279, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

- C. The license shall maintain the commitments made in response to the March 14, 1983, NUREG-0737 Order, subject to the following provision:

The licensee may make changes to commitments made in response to the March 14, 1983, NUREG-0737 Order without prior approval of the Commission as long as the change would be permitted without NRC approval, pursuant to the requirements of 10 CFR 50.59. Consistent with this regulation, if the change results in an Unreviewed Safety Question, a license amendment shall be submitted to the NRC staff for review and approval prior to implementation of the change.

D. Equalizer Valve Restriction

Three of the four valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation with one bypass valve open to allow for thermal expansion of water.

NRC Ltr
05/16/07

- 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Quad Cities Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

Am. 254
07/30/15

~~Exelon Generation Company~~**[SPINCO]** 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 ~~Exelon Generation Company~~ CSP was approved by License Amendment No. 244 and modified by License Amendment No. 254.

- F. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated July 27, 1979 with supplements dated

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

November 5, 1980, and February 12, 1981; December 30, 1982; December 1, 1987 with supplement dated April 20, 1988; December 11, 1987 with supplement dated July 21, 1988; and February 25, 1991, subject to the following provision:

The licensee 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.

- G. Deleted by incorporation into 3.E above, per Amendment No. 58 dated March 19, 1981.
- H. Deleted
- I. Deleted
- J. Deleted
- K. Deleted
- L. Deleted
- M. Deleted
- N. ~~EGG~~ **[SPINCO]** shall provide 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 ~~EGG~~ **[SPINCO]** 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 ~~EGG's~~ **[SPINCO's]** consolidated net utility plant, as recorded on ~~EGG's~~ **[SPINCO's]** books of account.
- Amd 275
04/06/20 O. Deleted.
- Amd 275
04/06/20 P. Deleted.

Amd 275
04/06/20

- Q. Deleted.
- R. **[SPINCO] EGC** shall relocate certain Technical Specification requirements to **EGGlicensee**-controlled documents upon implementation of Amendment No. 195. The items and appropriate documents are as described in Table LA, "Removal of Details Matrix," and Table R, "Relocated Specifications," that are attached to the NRC's Safety Evaluation enclosed with Amendment No. 195.
- S. The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 195 shall be as follows:
- For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of Amendment No. 195.
- For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of Amendment No. 195.
- For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of Amendment No. 195.
- For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of Amendment No. 195.
- T. Deleted

- U. The license is amended to authorize changing the UFSAR to allow credit for containment overpressure as detailed below, to assure adequate Net Positive Suction Head is available for low pressure Emergency Core Cooling System pumps following a design-basis accident.

From (sec)	To (sec)	Credit (psig)
Accident start	290	8.0
290	5,000	4.8
5,000	44,500	6.7
44,500	52,500	6.0
52,500	60,500	5.5
60,500	75,000	4.7
75,000	95,000	3.8
95,000	115,000	3.0
115,000	155,000	2.3
155,000	Accident end	1.8

- V. Updated Final Safety Analysis Report

The ~~Exelon Generation Company, LLC~~ Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. The ~~Exelon Generation Company, LLC~~ licensee shall complete these activities no later than December 14, 2012, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, ~~Exelon Generation Company, LLC~~ [SPINCO] may make changes to the programs and activities described in the supplement without prior Commission approval, provided that ~~Exelon Generation Company, LLC~~ the licensee evaluates such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- W. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of 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.

NRC Ltr. X.
08/09/07

Mitigation Strategy License Condition

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
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- NRC Ltr. Y.
08/09/07
- The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- Am. 233 Z.
03/20/08
- Upon implementation of Amendment No. 233 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.4, in accordance with TS 5.5.13.c.(i), the assessment of CRE habitability as required by Specification 5.5.13.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.13.d, shall be considered met. Following implementation:
- (1) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.13.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from September 21, 2006, the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (2) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from September 21, 2006, the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - (3) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously
- Am. 248 AA.
12/31/14
- While fuel assemblies are in the spent fuel pools (SFPs) for Quad Cities Nuclear Power Station Units 1 and 2, the licensee shall implement and maintain a Rack Insert Surveillance Program (RISP) to ensure the timely identification and mitigation of degradation of the aluminum boron carbide rack inserts in either unit's SFP. The RISP must:
- (1) Ensure that coupon evaluations of Boron-10 areal densities are performed by a qualified laboratory;
 - (2) Ensure that insert evaluations are performed to verify that any service wear is within expected parameters;
 - (3) Ensure that the evaluations are performed at intervals not to exceed four years for coupon Boron-10 areal density, and 10 years for insert service wear;

- (4) Ensure that if any inserts are identified as potentially failing the minimum certified Boron-10 areal density criterion, based on correlation of the coupon evaluation or insert service wear evaluation results to inserts, or other abnormal indications, [SPINCO] EGC will take affected inserts out of service until it can be positively demonstrated that the minimum certified Boron-10 areal density criterion (0.0116 g/cm^2) is met for each insert; and,
 - (5) Submit a report to the NRC, within 90 days following completion of evaluations associated with Item 4 above, that describes the testing results, assessments performed, and interim and long-term corrective actions for abnormal indications.
4. This renewed operating license is effective as of the date of issuance and shall expire at midnight on December 14, 2032.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A – Technical Specifications
2. Appendix B – Environmental Protection Plan

Date of Issuance: October 28, 2004

APPENDIX B

TO FACILITY OPERATING LICENSE NO. DPR-30

QUAD-CITIES STATION

UNIT 2

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-265

ENVIRONMENTAL PROTECTION PLAN

(NON-RADIOLOGICAL)

5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]



Enclosure 12

R.E Ginna Nuclear Power Plant

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-00001

R. E. GINNA NUCLEAR POWER PLANT, LLC

~~EXELON GENERATION COMPANY, LLC~~[SPINCO]

DOCKET NO. 50-244

R. E. GINNA NUCLEAR POWER PLANT

RENEWED FACILITY OPERATING LICENSE NO. DPR-18

1. The U.S. Nuclear Regulatory Commission (the Commission) having previously made the findings set forth in License No. DPR-18 issued December 10, 1984, has now found that:
 - A. The application to renew License No. DPR-18 filed by Rochester Gas and Electric Corporation (RG&E)* complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I and all required notifications to other agencies or bodies have been duly made;
 - B. 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 license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for R. E. Ginna Nuclear Power Plant (the facility), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
 - C. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance (i) that the facility can be operated at power levels up to 1520 megawatts (thermal) without endangering the health and safety of the public; and (ii) that such activities will be conducted in compliance with the regulations of the Commission (except as exempted from compliance in Section 2.D below);
 - E. R. E. Ginna Nuclear Power Plant, LLC (Ginna LLC) and ~~Exelon~~ **Generation**[SPINCO] are technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;

* By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to R. E. Ginna Nuclear Power Plant, LLC, was approved. By Order dated April 1, 2014, the transfer of the operating authority under this license to Exelon Generation Company, LLC was approved. **The U.S. Nuclear Regulatory Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].**

- F. ~~Exelon Generation~~**[SPINCO]** and Ginna LLC** have furnished proof of financial protection that satisfies the requirements of 10 CFR Part 140;
 - G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public; and
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the Commission concludes that the issuance of Renewed Operating License No. DPR-18 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-18, is superseded by Renewed Facility Operating License No. DPR-18, ~~hereby~~ issued to RG&E and ~~subsequently later~~ transferred to Ginna LLC and Exelon Generation **on [Month/Day/Year], and subsequently transferred from Exelon Generation Company to [SPINCO] (the licensee) as approved by the U.S. Nuclear Regulatory Commission on [Month/Day/Year],** to read as follows:
- A. This renewed license applies to the R. E. Ginna Nuclear Power Plant, a closed cycle, pressurized, light-water-moderated and cooled reactor, and electric generating equipment which is owned by Ginna LLC (**owner** licensee). The facility is located on the **owner** licensee's site on the south shore of Lake Ontario, Wayne County, New York, about 16 miles east of the City of Rochester and is described in the licensee's Updated Final Safety Analysis Report (UFSAR), as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 104b of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," (a) Ginna LLC to possess and (b) ~~Exelon Generation~~**[SPINCO]** to possess, use and operate the facility at the designated location in Wayne County, New York, in accordance with the procedures and limitations set forth in this renewed license;
 - (2) ~~Exelon Generation~~**[SPINCO]** pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material or reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation as described in the Final Safety Analysis Report, as amended, and Commission Safety Evaluations dated November 15, 1976, October 5, 1984, November 14, 1984, and August 30, 1995.
 - (a) ~~Exelon Generation~~**[SPINCO]** pursuant to the Act and 10 CFR Part 70, to receive and store four (4) mixed oxide fuel assemblies in accordance with ~~the~~ RG&E's application dated December 14, 1979 (transmitted by letter dated December 20, 1979);

** ~~Exelon Generation~~**[SPINCO]** is authorized to act for R. E. Ginna Nuclear Power Plant, LLC and has exclusive responsibility and control over the physical possession, operation, and maintenance of the facility.

- (b) ~~Exelon Generation~~[SPINCO] pursuant to the Act and 10 CFR Part 70, to possess and use four (4) mixed oxide fuel assemblies in accordance with ~~the~~ RG&E's application dated December 14, 1979 (transmitted by letter dated December 20, 1979). as supplemented February 20, 1980, and March 5, 1980;
 - (3) ~~Exelon Generation~~[SPINCO] 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;
 - (4) ~~Exelon Generation~~[SPINCO] 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
 - (5) ~~Exelon Generation~~[SPINCO] 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 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 rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:
- (1) Maximum Power Level
~~Exelon Generation~~[SPINCO] is authorized to operate the facility at steady-state power levels up to a maximum of 1775 megawatts (thermal).
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 143 -are hereby incorporated in the renewed license. ~~Exelon Generation~~[SPINCO] shall operate the facility in accordance with the Technical Specifications.
 - (3) Fire Protection
~~Exelon Generation~~[SPINCO] shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee's amendment request dated March 28, 2013, supplemented by letters dated December 17, 2013; January 29, 2014; February 28, 2014; September 5, 2014; September 24, 2014; December 4, 2014; March 18, 2015; June 11, 2015; August 7, 2015; June 30, 2017; October, 25, 2017; and June 5, 2018, and as approved in the safety evaluation reports dated November 23, 2015, and June 25, 2018. Except where NRC approval for changes or deviations is required

by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

(a) Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

1. Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
2. Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

(b) Other Changes that May Be Made Without Prior NRC Approval

1. Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is “adequate for the hazard.” Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- Fire Alarm and Detection Systems (Section 3.8);
- Automatic and Manual Water-Based Fire Suppression Systems (Section 3.9);
- Gaseous Fire Suppression Systems (Section 3.10); and
- Passive Fire Protection Features (Section 3.11).

This License Condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

2. Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee’s fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation dated November 23, 2015, to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

(c) Transition License Conditions

1. Before achieving full compliance with 10 CFR 50.48(c), as specified by (c)2 and (c)3 below, risk-informed changes to the licensee’s fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (b)2 above.
2. The licensee shall implement the modifications to its facility, as described in LAR Attachment S, Table S-2, “Plant Modifications Committed,” of Exelon Generation letter dated June 11, 2015, as modified by the Exelon Generation letter dated June 30, 2017, to complete the transition to full compliance with 10 CFR 50.48(c) no later than prior to startup from the second refueling outage greater than 12 months after receipt of the safety evaluation dated November 23, 2015. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications.

3. The licensee shall complete the implementation items listed in LAR Attachment S, Table S-3, "Implementation Items," of Exelon Generation letter dated June 11, 2015, as modified by Exelon Generation letter dated June 30, 2017, except Implementation Items 9, 10, 11, 12, 13, 14, 15, 19, 21, 23, and 24, by 180 days after NRC approval unless that date falls within a scheduled refueling outage, then implementation will occur 60 days after startup from that scheduled refueling outage. Implementation Items 9, 10, 11, 12, 13, 14, 15, 19, 21, 23, and 24 are associated with modifications described in Table S-2 and will be completed once the related modifications are installed and validated in the PRA model.

(4) Deleted

(5) Deleted

(6) Deleted

(7) Deleted

(8) Mitigation Strategy

~~Exelon Generation~~**[SPINCO]** 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

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(9) Control Room Envelope Habitability

Upon implementation of Amendment No. 105 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.9.4, in accordance with TS 5.5.16.c.i and the assessment of CRE habitability as required by 5.5.16.c.ii, shall be considered met. Following implementation:

(a) The first performance of SR 3.7.9.4 in accordance with Specification 5.5.16.c.i shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from February 8, 2005, the date of the most recent successful tracer gas test, as-stated in the April 6, 2007 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent tracer gas test is greater than 6 years.

(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.16.c.ii, shall be within 3 years, plus the 9-month allowance of SR 3.0.2 as measured from February 8, 2005, the date of the most recent successful tracer gas test, as stated in-the April 6, 2007 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.

(10) ~~The existing E.D.F. International S.A.S. Support Agreement of approximately \$145 million, dated November 6, 2009, may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. R. E. Ginna Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause E.D.F. International S.A.S., or its successors and assigns, to void, cancel, or materially modify the E.D.F. International S.A.S. Support Agreement or cause it to fail to perform, or impair its performance under the E.D.F. International S.A.S. Support Agreement, without the prior written consent of the NRC. Exelon Generation shall inform the NRC in writing no later than 14 days after any funds are provided to or for the CENG subsidiary licensee under the E.D.F. International S.A.S. Support Agreement.~~ Deleted

- (11) ~~Exelon Corporation~~**[SPINCO]** shall, no later than the ~~time the license transfers occur~~**date the closing of the transaction approved on [MONTH/DAY/YEAR] occurs**, enter into a Support Agreement of approximately ~~\$245-118~~ million with the **owner** licensee. ~~The Exelon Corporation Support Agreement shall supersede the Support Agreement provided by Exelon Generation, dated March 12, 2012, in all respects and shall be consistent with the representations contained in the August 6, 2013 transfer application.~~ ~~R. E. Ginna Nuclear Power Plant, LLC or, CENG, or Exelon Generation~~ shall not take any action to cause ~~Exelon Corporation~~**[SPINCO]**, or its successors and assigns, to void, cancel, or materially modify the ~~Exelon Corporation~~**[SPINCO]** Support Agreement or cause it to fail to perform, or impair its performance under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement, without the prior written consent of the NRC. The ~~Exelon Corporation~~**[SPINCO]** Support Agreement may not be amended or modified without 30 days prior written notice to the Director of the Office of Nuclear Reactor Regulation or his designee. An executed copy of the ~~Exelon Corporation~~**[SPINCO]** Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction and license transfers. ~~Exelon Generation~~**[SPINCO]** shall inform the NRC in writing no later than 14 days after any funds are provided to or for the **owner** licensee under the ~~Exelon Corporation~~**[SPINCO]** Support Agreement.
- (12) ~~Exelon Corporation shall, no later than the time the license transfers occur, provide a parent guarantee in the amount of \$165 million to ensure a source of funds for the facility in the event that the existing cash pool between the licensee and CENG is insufficient to cover operating costs. The existing CENG cash pool arrangement shall be consistent with the representations contained in the 2009 Transfer Application dated January 22, 2009 (ADAMS Accession No. ML090290101). R. E. Ginna Nuclear Power Plant, LLC, CENG, or Exelon Generation shall not take any action to cause Exelon Corporation, or its successors and assigns, to void, cancel or materially modify the parent guarantee or cause it to fail to perform, or impair its performance under the parent guarantee without the prior written consent of the NRC.~~**Deleted**
- (13) Within 14 days of the **closing of the transaction approved on [MONTH/DAY/YEAR]**~~license transfers~~, ~~Exelon Generation~~**[SPINCO]** shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated ~~August 6, 2013~~**February 25, 2021**. Section 7.1 of the Nuclear Operating Services Agreement may not be modified in any material respect related to financial arrangements that would adversely impact the ability of the licensee to fund safety-related activities authorized by the license without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.
- (14) ~~Within 10 days of the license transfers, Exelon Generation shall submit to the NRC the amended CENG Operating Agreement reflecting the terms set forth in the application dated August 6, 2013. The amended and restated Operating Agreement may not be modified in any material respect concerning decision-making authority over safety, security and reliability without the prior written consent of the Director of the Office of Nuclear Reactor Regulation.~~**Deleted**

(15) ~~At least half the members of the CENG Board of Directors must be U.S. citizens.~~**Deleted**

(16) ~~The CENG Chief Executive Officer, Chief Nuclear Officer, and Chairman of the CENG Board of Directors must be U.S. citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure that the business and activities of CENG with respect to the facility's license are at all times conducted in a manner consistent with the public health and safety and common defense and security of the United States.~~**Deleted**

(17)

(18)

D. The facility requires an exemption from certain requirements of 10 CFR 50.46(a)(1). This includes an exemption from 50.46(a)(1), that emergency core cooling system (ECCS) performance be calculated in accordance with an acceptable calculational model which conforms to the provisions in Appendix K (SER dated April 18, 1978). The exemption will expire upon receipt and approval of revised ECCS calculations. The aforementioned exemption is authorized by law and will not endanger life property or the common defense and security and is otherwise in the public interest. Therefore, the exemption is hereby granted pursuant to 10 CFR 50.12.

E. ~~Exelon Generation~~**[SPINCO]** 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 27827 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "R. E. Ginna Nuclear Power Plant Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan," submitted by letter dated May 15, 2006.

~~Exelon Generation~~**[SPINCO]** 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 licensee's CSP was approved by License Amendment No. 113 and modified by License Amendment No. 117. The licensee has obtained Commission authorization to use Section 161A preemption authority under 42 U.S.C. 2201a for weapons at its facility.

- F. The Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21 (d), describes certain future activities to be completed prior to the period of extended operation. Ginna LLC shall complete these activities no later than September 18, 2009, and shall notify the Commission in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71 (e)(4) following issuance of this renewed license. Until that update is complete, the licensee may make changes to the programs and activities described in the supplement without prior Commission approval, provided that the licensee evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- G. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of 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. Any capsules placed in storage must be maintained for future insertion, unless approved by the NRC.
- H. This renewed license is effective as of the date of issuance and shall expire at midnight on September 18, 2029.

FOR THE NUCLEAR REGULATORY

COMMISSION Original Signed By

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachment: Appendix A - Technical Specifications

Date of Issuance: May 19, 2004

5.0 ADMINISTRATIVE CONTROLS

5.3 Plant Staff Qualifications

5.3.1 Each member of the plant staff shall meet or exceed the minimum qualifications referenced for comparable positions as specified in the ~~Exelon~~ Quality Assurance Topical Report.

[SPINCO]

Enclosure 13

Salem Generating Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License Pages

PSEG NUCLEAR LLC
~~EXELON GENERATION COMPANY, LLC~~

[SPINCO]

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

FACILITY OPERATING LICENSE

Renewed License No. DPR-70

*

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 (the Act) of 1954, as amended, and the Commission's rules and 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. 1 (facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-52 and the application, as amended, the provisions of the Act and regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and 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 rules and regulations of the Commission;
 - E. PSEG Nuclear LLC is technically qualified and the licensees are financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
 - F. The licensees have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
 - G. 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;
 - H. 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-70, subject to the conditions for protection of the environment set forth in the Technical Specifications, Appendix B is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied;

Renewed License No. DPR-70

* The Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

- I. 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 including 10 CFR Sections 30.33, 40.32, and 70.23 and 70.31; and
 - J. 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. Renewed Facility Operating License No. DPR-70, is hereby issued to PSEG Nuclear LLC, and ~~Exelon Generation Company LLC (Exelon Generation Company)~~, (the licensees), to read as follows:
- [SPINCO]
- A. This renewed license applies to the Salem Nuclear Generating Station, Unit No. 1, a pressurized water nuclear reactor and associated equipment (the facility), owned by PSEG Nuclear LLC and ~~Exelon Generation Company~~, and operated by PSEG Nuclear LLC. The facility is located on the applicants' site in Salem County, New Jersey, on the southern end of Artificial Island on the east bank of the Delaware River in Lower Alloways Creek Township, and is described in the "Final Safety Analysis Report" as supplemented and amended and the Environmental Report as supplemented and amended.
- [SPINCO]
- B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
- [SPINCO]
- (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 this renewed license;
 - (2) PSEG Nuclear LLC, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use and operate the facility;
 - (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;
 - (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 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. 336, 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

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.

- (6) The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall include:
1. Identification of a sampling schedule for the critical parameters and control points for these parameters;
 2. Identification of the procedures used to measure the values of the critical parameters;
 3. Identification of process sampling points;
 4. Procedure for recording and management of data;
 5. Procedures defining corrective actions for off control point chemistry conditions; and
 6. A procedure identifying (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective action.

(7) Systems Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic inspection requirements, and
2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

(8) Iodine Monitoring

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel;
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

(9) Backup Method for Determining Subcooling Margin

The licensee shall implement a program which will ensure the capability to accurately monitor the Reactor Coolant System subcooling margin. This program shall include the following:

1. Training of personnel, and
2. Procedures for monitoring.

(10) Additional Condition Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 246, are hereby incorporated into this renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Additional Conditions.

(11) DELETED

- (12) ~~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.

(13) DELETED

(14) DELETED

(15) DELETED

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(16) 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

- (c) Actions to minimize release to include consideration of:
1. Water spray scrubbing
 2. Dose to onsite responders
- (17) Upon implementation of Amendment No. 286 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 6.18.c.(i), the assessment of CRE habitability as required by Specification 6.18.c.(ii). and the measurement of CRE pressure as required by Specification 6.18.d, shall be considered met. Following implementation:
- a. The first performance of SR 4.7.6.2. in accordance with Specification 6.18.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 6.18.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 6.18.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.
- (18) 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.
- (19) 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 August 13, 2016, and shall notify the NRC in writing when implementation of these activities is complete.
- (20) 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.

- (21) PSEG Nuclear LLC shall take one core sample in the Unit 1 spent fuel pool west wall, by the end of 2013, and one core sample in the east wall where there have been indications of borated water ingress through the concrete, by the end of 2015. The core samples (east and west walls) will expose the rebar, which will be examined for signs of corrosion. Any sample showing signs of concrete degradation and/or rebar corrosion will be entered into the licensee's corrective action program for further evaluation. PSEG Nuclear LLC shall submit a report in accordance with 10 CFR 50.4 no later than three months after each sample is taken on the results, recommendations, and any additional planned actions.
- (22) 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. Paragraph 2.D. has been combined with paragraph 2.E. per Amendment No. 86, June 27, 1988.

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. 300 as supplemented by changes approved by License Amendment Nos. 302, 306, and 318.

- F. In accordance with the requirement imposed by the October 8, 1976, order of the United States Court of Appeals for the District of Columbia Circuit in Natural Resources Defense Council v. Nuclear Regulatory Commission, No. 74-1385 and 74-1586, that the Nuclear Regulatory Commission "shall make any licenses granted between July 21, 1976 and such time when the mandate is issued subject to the outcome of the proceedings herein," the license amendment issued herein shall be subject to the outcome of such proceedings.
- G. Prior to startup following the first regularly scheduled refueling outage, Public Service Electric and Gas Company shall install, to the satisfaction of the Commission, a long-term means of protection against reactor coolant system over-pressurization when water-solid.
- H. This renewed license is effective as of the date of its issuance. Renewed Facility Operating License No. DPR-70, as amended, shall expire at midnight, August 13, 2036.

I. IAEA SAFEGUARDS

1. INCORPORATION OF FACILITY ATTACHMENT:

Pursuant to 10 CFR 75.8, NRC License No. DPR-70 is hereby amended to incorporate by reference Codes 1. through 7. of Facility Attachment No.13 dated October 1, 1986, to the US/IAEA of Safeguards Agreement.

2. FACILITY ATTACHMENT CODE 2.2

Notification of the changes referred to in Code 2.2 of the facility attachment is the responsibility of the operating facility. They can be notified to the NRC with a Concise Note (DOE/NRC Form 740M) or a letter. Notification is required 70 days prior to the event.

3. FACILITY ATTACHMENT CODE 3.1.3 & 5.1.2 & 5.2.3

The itemized lists of nuclear material to be provided to the IAEA as of cycle shutdown date prior to physical inventory taking are:

1. A complete list of fuel assemblies by ID number at all locations.
2. Reactor and fuel storage maps showing location of fuel by ID number at time of physical inventory taking.
3. A list, by batch, of any other accountable nuclear material, e.g., start-up sources, samples.

4. FACILITY ATTACHMENT CODE 3.2.2

Please refer to NRC letter dated May 27, 1986, to Mr. C.A. McNeill from Steven A. Varga which spells out timeliness and procedures for notification under this code.

5. FACILITY ATTACHMENT CODE 5.1.1 & 6.1.1

The statement "when calculated" means at least as often as required on page 2 of NUREG/BR-0006 Revision 2 or more often, at your option, if you calculate burn up more than every six months.

6. FACILITY ATTACHMENT CODE 6.1.1 & 6.1.2

The phrase "as specified in relevant paragraphs of Code 10" is a requirement on the U.S. All of the paragraphs in the US/IAEA Agreement that require a report from the U.S. to the IAEA based on source data from an operating facility have been incorporated into NUREG's BR-0006 and 0007 so that the NRC may collect the needed data for transmittal to the IAEA. PSEG Nuclear LLC should follow these NUREGs precisely in reporting inventory changes. A complete response to the reporting instructions in the NUREGs will satisfy the requirements specified in Code 10.

7. FACILITY ATTACHMENT CODE 6.2.2

The phrase "precise forecasts" means best estimates. These required concise notes should be dispatched to the NRC at least 40 days in advance of a projected 6 month operational programming.

8. FACILITY ATTACHMENT CODE 6.3.1 & 6.3.2

See response to Code 6.1.1 and 6.1.2 above.

9. FACILITY ATTACHMENT CODE 7.9

The specific facility health and safety rules and regulations to be observed by the Agency's (IAEA) inspectors, as specified in Paragraph 54 of the design information as of October 10, 1986, provided by the U.S.A. mean:

Agency inspectors who have previously visited the facility will be informed as necessary at the time of entry into the facility of health and safety rules and ad hoc rules as might be required in view of a special situation that has occurred at the facility since the inspector's last visit to the facility. The briefing will be of a short duration, not to exceed 30 minutes, covering topics deemed relevant by the licensee.

Agency inspectors who have not previously visited the facility will be informed as necessary at the time of entry into the facility of health and safety rules and ad hoc

rules as might be required in view of a special situation that has occurred at the facility. The briefing will be of an appropriate duration, not to exceed three hours, and consist of topics deemed relevant by the licensee.

In either case, the licensee should take into account the Agency inspector's prior training, expertise and experience. In neither case shall the Agency inspector be subject to any form of evaluation or testing by facility representatives or representatives of the U.S. Government.

For health and safety reasons, Agency inspectors will be escorted by qualified facility personnel at times deemed appropriate by the licensee.

10. TERMINATION

Pursuant to the provisions of 10 CFR 75.41, the Commission will inform the licensee, in writing, when its installation is no longer subject to Article 39(b) of the principal text of the US/IAEA Safeguards Agreement. The IAEA Safeguards License Conditions incorporating Code 7. of the Facility Attachment as part of NRC License DPR-70 will be terminated as of the date of such notice from the Commission. However, since the IAEA may elect to maintain the licensee's installation under Article 2(a) of the Protocol, provisions equivalent to Codes 1. through 6. of the Facility Attachment (with possible appropriate modifications) may still apply, and accordingly all other IAEA Safeguards License Conditions to NRC License No. DPR-70 will remain in effect until the Commission notifies the licensee otherwise. If this option is not selected by the IAEA, the Commission will then notify the licensee that all License Conditions pertaining to the US/IAEA Safeguards Agreement are terminated.

J. 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 Applications</u>	<u>Safety Evaluations</u>	<u>Amendment Nos.</u>
September 25, 1996	January 30, 1997	189

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

APPENDIX C
ADDITIONAL CONDITIONS
OPERATING LICENSE NO. DPR-70

PSEG Nuclear LLC, and ~~the Exelon Generation Company, LLC~~, shall comply with the following conditions on the schedules noted below:

[SPINCO]

Amendment Number	Additional Condition	Implementation Date
192	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these technical specification requirements to the appropriate documents, as described in the licensee's application dated January 11, 1996, as supplemented by letters dated February 26, May 22, June 27, July 12, December 23, 1996, and March 17, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 60 days from March 21, 1997.
194	The licensee is authorized to upgrade the initiation circuitry for the power operated relief valves, as described in the licensee's application dated January 31, 1997, as supplemented by letters dated March 14, April 8, and April 28, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented prior to entry into Mode 3 from the current outage for Salem Unit 1.
196	<p>Containment Fan Cooler Units</p> <p>The licensee shall complete all modifications associated with the amendment request concerning Containment Fan Cooler Units (CFCU) response time dated October 25, 1996, as described in the letters supplementing the amendment request dated December 11, 1996, January 28, March 27, April 24, June 3, and June 12, 1997, prior to entry into Mode 3 following refueling outage 12. All modifications made in support of this amendment request and described in the referenced submittals shall be in conformance with the existing design basis for Salem Unit 1, and programmatic controls for tank monitoring instrumentation shall be as described in the letter dated April 24, 1997. Post modification testing and confirmatory analyses shall be as described in the letter dated March 27, 1997. Future changes to the design described in these submittals may be made in accordance with the provisions of 10 CFR 50.59. Further, the administrative controls associated with CFCU operability and containment integrity described in the letters dated March 27, and April 24, 1997 shall not be relaxed or changed without prior staff review until such time as the license has been amended to include the administrative controls as technical specification requirements.</p>	The amendment shall be implemented prior to entry into Mode 3 from the current outage for Salem Unit 1.
198	The licensee shall perform an evaluation of the containment liner anchorage by November 30, 1997, for the loading induced on the containment liner during a Main Steam Line Break event to confirm the assumptions provided in the Preliminary Safety Analysis Report and Updated Final Safety Analysis Report.	The amendment shall be implemented within 30 days from July 17, 1997.

PSEG NUCLEAR LLC
~~EXELON GENERATION COMPANY, LLC~~

[SPINCO]

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

Renewed License No. DPR-75

* The Commission approved a transaction on [Month/Day/Year] that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

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:  [SPINCO]
- 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~~  [SPINCO] 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;

Renewed License No. DPR-75

- (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. 317, 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.

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ITEMS 3 THROUGH 9 DELETED

(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

(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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(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

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

- 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

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

APPENDIX C
ADDITIONAL CONDITIONS
OPERATING LICENSE NO. DPR-75

PSEG Nuclear LLC, and ~~the Exelon Generation Company LLC~~ shall comply with the following conditions on the schedules noted below:

[SPINCO]

Amendment Number	Additional Condition	Implementation Date
175	The licensee is authorized to relocate certain Technical Specification requirements to licensee-controlled documents. Implementation of this amendment shall include the relocation of these technical specification requirements to the appropriate documents, as described in the licensee's application dated January 11, 1996, as supplemented by letters dated February 26, May 22, June 27, July 12, December 23, 1996, and March 17, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented within 60 days from March 21, 1997.
177	The licensee is authorized to upgrade the initiation circuitry for the power operated relief valves, as described in the licensee's application dated January 31, 1997, as supplemented by letters dated March 14, April 8, and April 28, 1997, and evaluated in the staff's safety evaluation attached to this amendment.	The amendment shall be implemented prior to entry into Mode 3 from the current outage for Salem Unit 2.
179	<p>Containment Fan Cooler Units</p> <p>The licensee shall complete all modifications associated with the amendment request concerning Containment Fan Cooler Units (CFCU) response time dated October 25, 1996, as described in the letters supplementing the amendment request dated December 11, 1996, January 28, March 27, April 24, June 3, and June 12, 1997, prior to entry into Mode 3 following refueling outage 12. All modifications made in support of this amendment request and described in the referenced submittals shall be in conformance with the existing design basis for Salem Unit 1, and programmatic controls for tank monitoring instrumentation shall be as described in the letter dated April 24, 1997. Post modification testing and confirmatory analyses shall be as described in the letter dated March 27, 1997. Future changes to the design described in these submittals may be made in accordance with the provisions of 10 CFR 50.59. Further, the administrative controls associated with CFCU operability and containment integrity described in the letters dated March 27, and April 24, 1997 shall not be relaxed or changed without prior staff review until such time as the license has been amended to include the administrative controls as technical specification requirements.</p>	The amendment shall be implemented prior to entry into Mode 3 from the current outage for Salem Unit 2.
181	The licensee shall perform an evaluation of the containment liner anchorage by November 30, 1997, for the loading induced on the containment liner during a Main Steam Line Break event to confirm the assumptions provided in the Preliminary Safety Analysis Report and Updated Final Safety Analysis Report.	The amendment shall be implemented within 30 days from July 17, 1997.

Enclosure 14

Three Mile Island Nuclear Station, Unit 1

Proposed Mark-ups of Facility Operating License and Technical Specifications Pages

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

(Three Mile Island Nuclear Station, Unit 1)

DOCKET NO. 50-289

RENEWED FACILITY LICENSE

Renewed License No. DPR-50

1. The Nuclear Regulatory Commission (the Commission) having found that:

- a. The application for a renewed license filed by the applicant 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 1 and all required notifications to other agencies or bodies have been duly made;
- b. DELETED
- c. The facility will be maintained in conformity with the application, as amended, the provisions of the Act and the rules and regulations of the Commission;
- d. There is a reasonable assurance: (1) that the activities authorized by this renewed license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the rules and regulations of the Commission;
- e. ~~Exelon Generation Company, LLC (Exelon Generation Company)~~ is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
- f. ~~Exelon Generation Company~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
- g. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
- h. After weighing the environmental, economic, technical, and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Renewed Facility License No. DPR-50 is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied;

[SPINCO]

[SPINCO]

- i. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including 10 CFR Section 30.33, 40.32, 70.23 and 70.31; and
 - j. 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 the 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. Renewed Facility License No. DPR-50 is hereby issued to ~~Exelon Generation Company~~ to read as follows: [SPINCO] ↗
- a. This renewed license applies to the Three Mile Island Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility), owned by ~~Exelon Generation Company~~. The facility is located in Dauphin County, Pennsylvania, and is described in the "Updated Final Safety Analysis Report (UFSAR)" as supplemented and amended and the Environmental Report as supplemented and amended. [SPINCO] ↗
 - b. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) ~~Exelon Generation Company~~, pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess and use the facility as required for fuel storage in accordance with the procedures and limitations set forth in this renewed license; [SPINCO] ↗
 - (2) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to possess at any time any byproduct, source and special nuclear material used previously as reactor fuel, sealed neutron sources used previously for reactor startup, as fission detectors, and sealed sources for reactor instrumentation and to possess and use at any time any byproduct, source and special nuclear material as sealed sources for radiation monitoring equipment calibration in amounts as required; [SPINCO] ↗
 - (3) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess at either TMI-1 or TMI-2, and use in amounts as required for TMI-1 any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis, testing, instrument calibration, or associated with radioactive apparatus or components. Other than radioactive apparatus and components to be used at TMI Unit 2 in accordance with the TMI-2 License, the radioactive apparatus and components that may be moved from TMI [SPINCO] ↗

Unit 1 to TMI Unit 2 under this provision shall be limited to: (1) outage-related items (such as contaminated scaffolding, tools, protective clothing, portable shielding and decontamination equipment); and (2) other equipment belonging to TMI Unit 1 when storage of such equipment at TMI-2 is deemed necessary for load handling or contamination control considerations;

- (4) ~~Exelon Generation Company~~, pursuant to the Act and 10 CFR Parts 30 and 70, to possess at the TMI Unit 1 or Unit 2 site, but not separate, such byproduct and special nuclear materials that were produced by the operation of either unit. Radioactive waste may be moved from TMI Unit 2 to TMI Unit 1 under this provision for collection, processing (including decontamination), packaging, and temporary storage prior to disposal. Radioactive waste that may be moved from TMI Unit 1 to TMI Unit 2 under this provision shall be limited to: (1) dry active waste (DAW) temporarily moved to TMI Unit 2 during waste collection activities, and (2) contaminated liquid contained in shared system piping and tanks. Radioactive waste that may be moved from TMI Unit 1 to TMI Unit 2 under this provision shall not include spent fuel, spent resins, filter sludge, evaporator bottoms, contaminated oil, or contaminated liquid filters.

[SPINCO]

The storage of radioactive materials or radwaste generated at TMI Unit 2 and stored at TMI Unit 1 shall not result in a source term that, if released, would exceed that previously analyzed in the UFSAR in terms of off-site dose consequences.

The storage of radioactive materials or radwaste generated at TMI Unit 1 and stored at TMI Unit 2 shall not result in a source term that, if released, would exceed that previously analyzed in the PDMS SAR for TMI Unit 2 in terms of off-site dose consequences.

- c. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; 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) DELETED
- (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 301, are hereby incorporated in the license. The ~~Exelon Generation Company~~ shall maintain the facility in accordance with the Permanently Defueled Technical Specifications (PDTs).

[SPINCO]

(3) Physical Protection

[SPINCO]

~~Exelon Generation Company~~ 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 the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, submitted by letter dated May 17, 2006, is entitled: "Three Mile Island Nuclear Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3." The set contains Safeguards Information protected under 10 CFR 73.21.

(4) DELETED

(5) DELETED

(6) Inservice Testing - DELETED

(7) Aircraft Movements - DELETED

(8) Repaired Steam Generators - DELETED

(9) Long Range Planning Program - DELETED

Sale and License Transfer Conditions

(10) DELETED

(11) DELETED

(12) DELETED

(13) DELETED

(14) DELETED

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- (15) ~~Exelon Generation Company~~ shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application, the requirements of the Order Approving Transfer of License and Conforming Amendment, dated January 8, 2009, and the related Safety Evaluation dated December 23, 2008.

[SPINCO]

- (16) DELETED

- (17) Mitigation Strategy License Condition

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

- (c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

- (18) DELETED

- (19) DELETED

- (20) DELETED

- (21) The UFSAR supplement, as revised, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to and/or during the period of extended operation. The licensee shall complete these activities in accordance with Appendix A of NUREG-1928, "Safety Evaluation Report Related to the License Renewal of Three Mile Island, Unit 1," dated, October, 2009. The licensee shall notify the NRC in writing when activities to be completed prior to the period of extended operation are complete and can be verified by NRC inspection.
 - (22) Handling of irradiated fuel in the Spent Fuel Pool will not be permitted following implementation of the PDTS until a minimum of 60 days following the permanent shutdown.
- d. This license is effective as of the date of issuance and is effective until the Commission notifies the licensee in writing that the license is terminated.

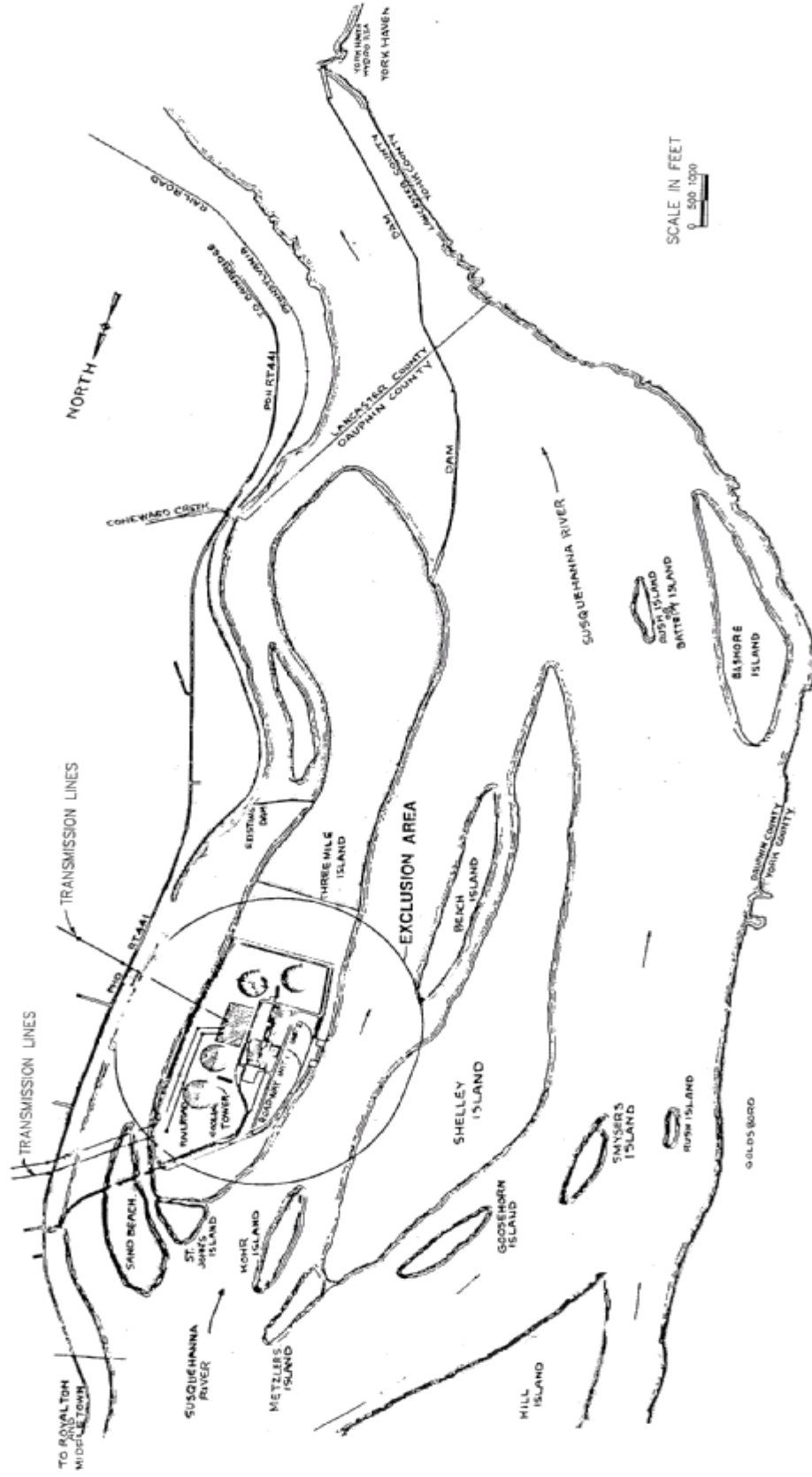
FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachment: Appendix A, Technical
Specifications

Date of Issuance: October 22, 2009



Amendment No. 440, 246, 246, 278, 300

Exelon	Three Mile Island Nuclear Station
	EXTENDED PLOT PLAN
	CAD FILE: 6717R1.DWG
	FIG 5-1

- g. Except for the Shift Manager, shift crew composition may be one less than the minimum requirement of Specification 6.2.2.a for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements and the following conditions are met:

- 1) No fuel movement is in progress;
- 2) No movement of loads over the spent fuel is in progress.

This provision does not permit any shift crew position to be unstaffed upon shift change due to an incoming shift crewman being late or absent.

6.3 FACILITY STAFF QUALIFICATIONS

- 6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions specified in the ~~Exelon~~ Decommissioning Quality Assurance Program (DQAP).

[SPINCO]

- 6.3.2 The NRC-approved training and retraining program for CERTIFIED FUEL HANDLERs shall be maintained.

6.4 DELETED

6.5 DELETED

6.6 DELETED

6.7 DELETED

Enclosure 15

Zion Nuclear Power Station, Units 1 and 2

Proposed Mark-ups of Facility Operating License Pages



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

~~EXELON GENERATION COMPANY, LLC~~ [SPINCO]

(Zion Nuclear Power Station, Unit 1)

DOCKET NO. 50-295

FACILITY OPERATING LICENSE

License No. DPR-39

1. The Atomic Energy Commission (the Commission) having found that:
 - A. The application for license filed by the applicant* 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 and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Zion Nuclear Power Station, Unit 1 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-58 and the application, as amended, the provisions of the Act and the rules and regulation of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance (i) that the activities authorized by this 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 rules and regulations of the Commission;
 - E. ~~Exelon Generation Company, LLC~~ is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
 - F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

* ~~The Nuclear Regulatory Commission approved the transfer of the license from Zion Solutions, LLC to Exelon Generation Company, LLC on Month Date, 2019.~~

Amendment No. 192

The Nuclear Regulatory Commission approved the transfer of the possession, maintenance, and decommissioning authorities under the license from Zion Solutions, LLC to Exelon Generation Company, LLC on November 26, 2019. Thereafter, on October 21, 2020, the Nuclear Regulatory Commission extended the effective date of the transfer order through May 26, 2021. On [Month/Day/Year], the Nuclear Regulatory Commission approved a transaction that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

- G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. Operation of the facility during the period of this license in accordance with its terms and conditions will provide adequate protection of the environment during the period of this license;
 - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Amendment No. 3 to Facility Operating License No. DPR-39 (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied;
 - J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Sections 30.33, 40.32, 70.23 and 70.31.
2. Facility Operating License No. DPR-39 issued to ~~Exelon Generation Company, LLC~~ (EGC or the licensee) is hereby amended in its entirety to read as follows:
- A. This license applies to the Zion Nuclear Power Station, Unit 1, a pressurized, light water moderated and cooled reactor and associated electric generating equipment (the facility). The facility, comprised of the Independent Spent Fuel Storage Installation (ISFSI), is located on the west shore of Lake Michigan in Zion, Lake County, Illinois, approximately midway between Milwaukee, Wisconsin and Chicago, Illinois, as described in the Defueled Safety Analysis Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses EGC:
 - (1) Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended, and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location;
 - (2) Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material," to receive, possess, and use at any time in connection with the operation of the facility, that amount of uranium enriched in the isotope U-235 in accordance with the limitations for storage and amounts required for reactor operation as described in the Zion Station Defueled Safety Analysis Report as supplemented and amended, or as described in any amendment to this license;

- 2.B (3) 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;
- (4) 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;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear material as may be produced by the operation of the facility.

- C. This amended license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50 and Section 70.32 of 10 CFR 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 below.

(1) Deleted.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 192, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Deleted.

(4) Deleted.

(5) Deleted.

(6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Zion Nuclear Power Station Independent Spent Fuel Storage Installation Physical Security Plan. This plan contains Safeguards Information protected under 10 CFR 73.21. (revised 1-15-81; Am. 61; revised 10-11-88; Am. 113; revised 12-13-13; Am. 187; revised 01-14-2015, Am. 188).

(7) Deleted.

(8) Deleted.

(9) Deleted.

(10) Deleted.

(11) Deleted.

(12) ~~EGC~~ shall provide 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 ~~EGC~~ 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 ~~EGC's~~ consolidated net utility plant, as recorded on ~~EGC's~~ books of account.

(13) Deleted.

(14) The decommissioning trust agreement for Zion, Unit 1, at the time the transfer of the unit to ~~EGC~~ is effected and thereafter, is subject to the following:

(a) The decommissioning trust agreement must be in a form acceptable to the NRC.

(b) With respect to the decommissioning trust fund, investments in the securities or other obligations of ~~Exelon Generation Company, LLC~~ or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.

(c) The decommissioning trust agreement for Zion, Unit 1, must provide that no disbursements or payments from the trust shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.

(d) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.

- (e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a “prudent investor” standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Commission’s regulations.

- (15) ~~EGC~~ shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, Unit 1, license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.

[SPINCO]

- (16) Deleted.

- (17) License Termination Plan (LTP)

~~EGC~~ shall implement and maintain in effect all provisions of the approved License Termination Plan as approved in License Amendment No. 191 subject to and as amended by the following stipulations:

[SPINCO]

~~EGC~~ may make changes to the LTP without prior approval provided the proposed changes do not meet any of the following criteria:

[SPINCO]

- (A) Require Commission approval pursuant to 10 CFR 50.59.
- (B) Result in significant environmental impacts not previously reviewed.
- (C) Detract or negate the reasonable assurance that adequate funds will be available for decommissioning.
- (D) Decrease a survey unit area classification (i.e., impacted to not impacted; Class 1 to Class 2; Class 2 to Class 3; or Class 1 to Class 3) without providing the NRC a minimum 14 day notification prior to implementing the change in classification.
- (E) Increase the derived concentration guideline levels (DCGLs) and related minimum detectable concentrations (for both scan and fixed measurement methods).
- (F) Increase the radioactivity level, relative to the applicable DCGL, at which an investigation occurs.
- (G) Change the statistical test applied other than the Sign test.
- (H) Increase the approved Type I decision error above the level stated in the LTP.

- (I) Change the approach used to demonstrate compliance with the dose criteria (e.g., change from demonstrating compliance using derived concentration levels to demonstrating compliance using a dose assessment that is based on final concentration data).
 - (J) Change parameter values or pathway dose conversion used to calculate the dose such that the resultant dose is lower than in the approved LTP and if a dose assessment is being used to demonstrate compliance with the dose criteria.
 - (K) Reuse concrete from demolished structures, other than from the list of areas specified in Section 2.1.1 of TSD 17-010, "Final Report - Unconditional Release Surveys at the Zion Station Restoration Project, Revision 1", as backfill.
 - (L) Assign a dose for reuse concrete other than the dose values provided along with the LTP (as shown in Table 6-53 (Revision 2) of the LTP) and documented in Section 8 and Table 33 of TSD 14-010, "RESRAD Dose Modeling for Basement Fill Model and Soil DCGL and Calculation of Basement Fill Model Dose Factors and DCGLs, Revision 6."
 - (M) Use area-specific surrogate ratios that are less than the maximum surrogate ratios (H-3/Cs-137, Ni-63/Co-60, Sr-90/Cs-137) presented in Table 5-15 (Revision 2) of the LTP.
3. This amended license is issued without prejudice to subsequent licensing action which may be taken by the Commission.
4. This license is effective as of the date of issuance and shall expire at midnight on April 6, 2013.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by Roger S. Boyd

A. Giambusso, Deputy Director
For Reactor Projects
Directorate of Licensing

Date of Issuance: October 19, 1973



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

[SPINCO]

~~EXELON GENERATION COMPANY, LLC~~

(Zion Nuclear Power Station, Unit 2)

DOCKET NO. 50-304

FACILITY OPERATING LICENSE

License No. DPR-48

1. The Atomic Energy Commission (the Commission) having found that:
 - A. The application for license filed by the applicant* 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 and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Zion Nuclear Power Station, Unit 2 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-59 and the application, as amended, the provisions of the Act and the rules and regulation of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
 - D. There is reasonable assurance (i) that the activities authorized by this 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 rules and regulations of the Commission;
 - E. ~~Exelon Generation Company, LLC~~ is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;

[SPINCO]

~~* The Nuclear Regulatory Commission approved the transfer of the license from Zion Solutions, LLC to Exelon Generation Company, LLC on Month Date, 2020.~~

Amendment No. 179

The Nuclear Regulatory Commission approved the transfer of the possession, maintenance, and decommissioning authorities under the license from Zion Solutions, LLC to Exelon Generation Company, LLC on November 26, 2019. Thereafter, on October 21, 2020, the Nuclear Regulatory Commission extended the effective date of the transfer order through May 26, 2021. On [Month/Day/Year], the Nuclear Regulatory Commission approved a transaction that resulted in Exelon Generation Company, LLC being renamed ["SPINCO"].

- [SPINCO] → F. ~~Exelon Generation Company, LLC~~ has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
- G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
- K. Operation of the facility during the period of this license in accordance with its terms and conditions will provide adequate protection of the environment during the period of this license;
- L. After weighing the environmental, economic, technical and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-48 (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied;
- M. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Sections 30.33, 70.23 and 70.31.
2. Facility Operating License No. DPR-48 is hereby issued to ~~Exelon Generation Company, LLC (EGC or the licensee)~~ → [SPINCO] to read as follows:
- A. This license applies to the Zion Nuclear Power Station, Unit 2, a pressurized, light water moderated and cooled reactor and associated electric generating equipment (the facility). The facility, comprised of the Independent Spent Fuel Storage Installation (ISFSI), is located on the west shore of Lake Michigan in Zion, Lake County, Illinois, approximately midway between Milwaukee, Wisconsin and Chicago, Illinois, as described in the Defueled Safety Analysis Report, as supplemented and amended.

[SPINCO]

B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ~~ECC~~:

- (1) Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended, and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location;
- (2) Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material," to receive, possess, and use at any time in connection with the operation of the facility, that amount of uranium enriched in the isotope U-235 in accordance with the limitations for storage and amounts required for reactor operation as described in the Zion Station Defueled Safety Analysis Report as supplemented and amended, or as described in any amendment to this license;
- (3) 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;
- (4) 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;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear material as may be produced by the operation of the facility.

- C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR 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 below:

(1) Deleted.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 179, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Deleted 3-11-83; Am. 72.

(4) Deleted.

(5) Deleted.

(6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Zion Nuclear Power Station Independent Spent Fuel Storage Installation Physical Security Plan. This plan contains Safeguards Information protected under 10 CFR 73.21. (revised 10-11-88, Am. 102; revised 12-13-13, Am. 174; revised 01-14-15, Am. 175).

(7) Deleted.

(a) Deleted.

(b) Deleted.

(c) Deleted 1-15-81; Am. 58.

(d) Deleted 1-15-81; Am. 58.

(e) Deleted 1-15-81; Am. 58.

(8) Deleted.

(9) Deleted.

(10) Deleted.

(11) Deleted.

(12) ~~ECC~~ shall provide 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 ~~ECC~~ 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 ~~ECC's~~ consolidated net utility plant, as recorded on ~~ECC's~~ books of account.

(13) Deleted.

(14) The decommissioning trust agreement for Zion, Unit 2, at the time the transfer of the unit to ~~ECC~~ is effected and thereafter, is subject to the following:

(a) The decommissioning trust agreement must be in a form acceptable to the NRC.

(b) With respect to the decommissioning trust fund, investments in the securities or other obligations of ~~Exelon Generation Company, LLC~~ or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.

- (c) The decommissioning trust agreement for Zion, Unit 2, must provide that no disbursements or payments from the trust shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.
- (e) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.
- (f) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.

- (15) ~~ECC~~ shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, Unit 2, license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.

[SPINCO]

- (16) Deleted.

- (17) License Termination Plan (LTP)

~~ECC~~ shall implement and maintain in effect all provisions of the approved License Termination Plan as approved in License Amendment No. 178 subject to and as amended by the following stipulations:

[SPINCO]

~~ECC~~ may make changes to the LTP without prior approval provided the proposed changes do not meet any of the following criteria:

[SPINCO]

- (A) Require Commission approval pursuant to 10 CFR 50.59.
- (B) Result in significant environmental impacts not previously reviewed.
- (C) Detract or negate the reasonable assurance that adequate funds will be available for decommissioning.

- (D) Decrease a survey unit area classification (i.e., impacted to not impacted; Class 1 to Class 2; Class 2 to Class 3; or Class 1 to Class 3) without providing the NRC a minimum 14 day notification prior to implementing the change in classification.
- (E) Increase the derived concentration guideline levels (DCGL) and related minimum detectable concentrations (for both scan and fixed measurement methods).
- (F) Increase the radioactivity level, relative to the applicable DCGL, at which an investigation occurs.
- (G) Change the statistical test applied other than the Sign test.
- (H) Increase the approved Type I decision error above the level stated in the LTP.
- (I) Change the approach used to demonstrate compliance with the dose criteria (e.g., change from demonstrating compliance using derived concentration levels to demonstrating compliance using a dose assessment that is based on final concentration data).
- (J) Change parameter values or pathway dose conversion used to calculate the dose such that the resultant dose is lower than in the approved LTP and if a dose assessment is being used to demonstrate compliance with the dose criteria.
- (K) Reuse concrete from demolished structures, other than from the list of areas specified in Section 2.1.1 of TSD 17-010, "Final Report - Unconditional Release Surveys at the Zion Station Restoration Project, Revision 1", as backfill.
- (L) Assign a dose for reuse concrete other than the dose values provided along with the LTP (as shown in Table 6-53 (Revision 2) of the LTP) and documented in Section 8 and Table 33 of TSD 14-010, "RESRAD Dose Modeling for Basement Fill Model and Soil DCGL and Calculation of Basement Fill Model Dose Factors and DCGLs, Revision 6."
- (M) Use area-specific surrogate ratios that are less than the maximum surrogate ratios (H-3/Cs-137, Ni-63/Co-60, Sr-90/Cs-137) presented in Table 5-15 (Revision 2) of the LTP.

3. This amended license is issued without prejudice to subsequent licensing action which may be taken by the Commission.
4. This license is effective as of the date of issuance and shall expire at midnight on November 14, 2013.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by Roger S. Boyd

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Date of Issuance: November 14, 1973