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

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;

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:

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;

(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. 330, 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 plans[1], 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.

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

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:

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) PSEG Nuclear 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 August 21, 2000, and the related Safety Evaluation dated February 16, 2000.

(b) The decommissioning trust agreement shall provide that:

1) The use of assets in both the qualified and nonqualified funds shall be limited to expenses related to decommissioning of the unit as defined by the NRC in its regulations and issuances, and as provided in the unit's license and any amendments thereto. However, upon completion of decommissioning, as defined above, the assets may be used for any purpose authorized by law.

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

2) Investments in the securities or other obligations of PSE&G or affiliates thereof, or their successors or assigns, shall be prohibited. In addition, 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 shall be prohibited.

3) No disbursements or payments from the trust shall be made by the trustee until the trustee has first given the NRC 30 days notice of the payment. In addition, 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.

4) The trust agreement shall not be modified in any material respect without prior written notification to the Director, Office of Nuclear Reactor Regulation.

5) 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(3) of the Federal Energy Regulatory Commission's regulations.

(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.

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

(7) Exelon Generation Company shall have decommissioning trust funds for Peach Bottom, Unit 2, in the following minimum amount, when Peach Bottom, Unit 2, is transferred to Exelon Generation Company:

Peach Bottom, Unit 2	$71,250,231

(8) The decommissioning trust agreement for Peach Bottom, Unit 2, at the time the transfer of the unit to Exelon Generation Company 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 Corporation or affiliates thereof, or their 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 shall be prohibited.

(c) The decommissioning trust agreement for Peach Bottom, 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, 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 Regulatory Commission's regulations.

(9) Exelon Generation Company 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 Peach Bottom, Unit 2, license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.

(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.

(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.

(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.

(d) Core Shroud Inspection and Evaluation Guidelines Program

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.

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:

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.

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.

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

    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.

    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.

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.

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

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:

   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.

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:

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.

(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:

(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.

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.

(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.

(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.

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 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