



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

RENEWED FACILITY OPERATING LICENSE

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

CALVERT CLIFFS NUCLEAR POWER PLANT, LLC

CONSTELLATION ENERGY GENERATION, LLC

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* By Order dated October 9, 2009, as superseded by Order dated October 30, 2009, the transfer of this license to Calvert Cliffs Nuclear Power Plant, LLC, was approved.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 November 16, 2021, a transaction was approved that resulted in Exelon Generation Company, LLC being renamed Constellation Energy Generation, LLC. Unless otherwise noted, references to "the licensee" are to Constellation Energy Generation, LLC as the operating licensee.

- D. The Calvert Cliffs Nuclear Power Plant, LLC and Constellation Energy Generation, LLC** 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 Constellation Energy Generation, LLC 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) Constellation Energy Generation, LLC 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) Constellation Energy Generation, 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, and described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) Constellation Energy Generation, 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;

** Constellation Energy Generation, LLC 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) Constellation Energy Generation, 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, 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) Constellation Energy Generation, 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 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

Constellation Energy Generation, LLC 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. 326, 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, Constellation Energy Generation, LLC (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. 323 are hereby incorporated into this license. Constellation Energy Generation, LLC shall operate the facility in accordance with the Additional Conditions.

(6) Secondary Water Chemistry Monitoring Program

Constellation Energy Generation, LLC 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

Constellation Energy Generation, LLC 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

Constellation Energy Generation, LLC 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 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).

- (9) Constellation Energy Generation, LLC shall provide to the Director of the Office of Nuclear Reactor Regulation or the Director of the Office of Nuclear Material Safety and Safeguards, as applicable, a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from Constellation Energy Generation, 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 Constellation Energy Generation, LLC's consolidated net utility plant, as recorded on Constellation Energy Generation, LLC's books of account.

- D. Constellation Energy Generation, LLC 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.

Constellation Energy Generation, 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 licensee's CSP was approved by License Amendment No. 275 and modified by License Amendment No. 290.

- E. Constellation Energy Generation, LLC 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 license 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 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, 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, 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. 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

Appendix A: Technical Specifications

Calvert Cliffs 2 uses the same Appendix A as Calvert Cliffs 1. Please refer to Calvert Cliffs 1 for Appendix A (ML052720276).

**CALVERT CLIFFS
NUCLEAR POWER PLANT
UNIT 2
TECHNICAL SPECIFICATIONS**

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

**ENVIRONMENTAL PROTECTION PLAN
(NON-RADIOLOGICAL)
TECHNICAL SPECIFICATIONS**

ISSUED BY THE UNITED STATES NUCLEAR REGULATORY COMMISSION

1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of environmental values during construction and operation of the nuclear facility. The principal objectives of the EPP are as follows:

1. Verify that the plant is operated in an environmentally acceptable manner, as established by the FES and other NRC environmental impact assessments.
2. Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
3. Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FES which relate to water quality matters are regulated by way of the licensee's NPDES permit.

2.0 Environmental Protection Issues

In the FES-0L, the staff considered the environmental impacts associated with the operation of the Calvert Cliffs Plant. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment. The Appendix B Environmental Technical Specifications issued with the licenses included discharge restrictions and monitoring programs to resolve the issues. Prior to issuance of this EPP, the requirements remaining in the ETS were:

1. Protection of the aquatic environment by limiting the discharge of dissolved solids and acids and bases and an annual inventory of treatment chemicals added or used in the plant. (ETS 2.2.1, 2.2.2)
2. Surveillance programs for fish, crabs and oysters, and water quality to establish impact of plant operation on the aquatic environment. (ETS 3.1)
3. Special studies to document levels of intake entrainment and impingement in relation to the densities of important species in the plant vicinity. (ETS 3.1.2.b)

Aquatic issues are now addressed by the effluent limitations and monitoring requirements continued in the effective NPDES Permit issued by the Maryland Department of the Environment. The NRC will rely on this agency for regulation of matters involving water quality and aquatic biota.

3.0 Consistency Requirements

3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such changes, tests or experiments do not involve an unreviewed environmental question. Changes in plant design or operation or performance of tests or experiments which do not affect the environment are not subject to this requirement.

Before engaging in unauthorized construction or operational activities which may affect the environment, the licensee shall perform an environmental evaluation of such activity.* When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activities and obtain prior approval from the NRC.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by staff's testimony to the Atomic Safety and Licensing Board, supplements to the FES, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level (in accordance with 10 CFR 51.2(b)(2)); or (3) a matter not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include a written evaluation which provides bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question.

Activities governed by Section 3.3 of this EPP are not subject to the requirements of this section.

* Activities are excluded from this requirement if all measurable nonradiological effects are confined to the onsite areas previously disturbed during site preparation, plant construction and previous plant operation.

3.2 Reporting Related to the NPDES Permit and State Certification (pursuant to Section 401 of the Clean Water Act)

1. Violations of the NPDES Permit or the State 401 Certification Conditions shall be reported to the NRC by submittal of copies of the reports required by the NPDES Permit or State 401 Certification.
2. The licensee shall provide the NRC with a copy of any 316(a) or (b) studies and/or related documentation at the same time it is submitted to the permitting agency.
3. Changes and additions to the NPDES Permit or the State 401 Certification shall be reported to the NRC within 30 days following the date the change is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.
4. The NRC shall be notified of changes to the effective NPDES Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the NPDES Permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, or local environmental regulations are not subject to the requirements of Section 3.1.

4.0 Environmental Conditions

4.1 Significant Environmental Events

Any occurrence of a significant event that indicates or could result in significant environmental impact causally related to station operation shall be recorded and promptly reported to the NRC within 24 hours followed by a written report within 30 days. No routine monitoring programs are required to implement this condition.

The written report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact and plant operating characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided a copy of such report at the same time it is submitted to the other agency.

The following are examples of significant environmental events: excessive bird impaction events; onsite plant or animal disease outbreaks; mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973; unusual fish kills; and increase in nuisance organisms or conditions.

Appendix C

Additional Conditions

Facility Operating License No. DPR-69

Constellation Energy Generation, LLC (the licensee) 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 | 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> |
|----------------------|---|--|
| 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

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Amendment No. Additional Conditions Implementation Date

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.

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:

- a. Predicted rod internal pressure shall remain below the steady state system pressure.
- b. The linear heat generation rate fuel centerline melting safety limit shall remain below 21.0 KW/ft.

For the Control Element Assembly Ejection analysis, Calvert Cliffs Unit 2 core reloads (starting with Cycle 19) shall satisfy the following criteria:

- a. 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.
- b. 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

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| <u>Amendment No.</u> | <u>Additional Conditions</u> | <u>Implementation Date</u> |
|----------------------|--|---|
| 280 | <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> <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 Condition</u> | <u>Implementation Date</u> |
|----------------------|-----------------------------|--|
| 321 | 1) Deleted | No later than the closing date of the transaction approved on November 16, 2021. |

Appendix C (Cont'd)

Additional Conditions

Facility Operating License No. DPR-69

| <u>Amendment No.</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|----------------------|--|----------------------------|
| | <p>2) Constellation Energy Generation, LLC shall, no later than the date the closing of the transaction approved on November 16, 2021, occurs, enter into a Support Agreement of approximately \$126 million with CCNPP, LLC. Calvert Cliffs Nuclear Power Plant, LLC shall not take any action to cause Constellation Energy Generation, LLC, or its successors and assigns, to void, cancel, or materially modify the Constellation Energy Generation, LLC Support Agreement or cause it to fail to perform, or impair its performance under the Constellation Energy Generation, LLC Support Agreement, without the prior written consent of the NRC. The Constellation Energy Generation, LLC 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 their designee. An executed copy of the SPINCO Support Agreement shall be submitted to the NRC no later than 30 days after the completion of the proposed transaction. Constellation Energy Generation, LLC shall inform the NRC in writing no later than 14 days after any funds are provided to or for CCNPP, LLC under the Constellation Energy Generation, LLC Support Agreement.</p> | |

Appendix C (Cont'd)

Additional Conditions

Facility Operating License No. DPR-69

| <u>Amendment No.</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|----------------------|--|----------------------------|
| | 3) Deleted. | |
| | 4) Within 14 days of the closing of the transaction approved on November 16, 2021, Constellation Energy Generation, LLC shall submit to the NRC the Nuclear Operating Services Agreement reflecting the terms set forth in the application dated 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. | |
| | 5) Deleted | |
| | 6) Deleted | |

Appendix C (Cont'd)

Additional Conditions

Facility Operating License No. DPR-69

| <u>Amendment No.</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|----------------------|-----------------------------|----------------------------|
| | 7) 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 |

Appendix C (Cont'd)Additional ConditionsFacility Operating License No. DPR-69

| <u>Amendment No.</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|----------------------|--|---------------------------------------|
| 317 | Up to two Framatome PROtect™ Lead Test Assemblies utilizing Chromium-coated M5® cladding and chromia doped pellets may be placed in limiting regions of the core for up to 3 cycles commencing with the implementation of Amendment 317. | With implementation of this Amendment |
| 317 | The safety limits specified in TS 2.1.1.2 regarding fuel centerline melt temperature for Framatome fuel, < 5081°F, decreasing by 58°F per 10,000 MWD/MTU and adjusted for burnable poison per XN-NF-79-56(P)(A), Revision 1, Supplement 1 is not applicable for the Framatome PROtect™ Lead Test Assemblies utilizing Chromium-coated M5® cladding and chromia doped pellets for up to 3 cycles commencing with the implementation of Amendment 317. | With implementation of this Amendment |
| 317 | The requirement that the RODEX2 predicted rod internal pressure shall remain below the steady state system pressure is not applicable for the Framatome PROtect™ Lead Test Assemblies utilizing Chromium coated M5® cladding and chromia doped pellets for up to 3 cycles commencing with the implementation of Amendment 317. | With implementation of this Amendment |

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 |

Appendix C (Cont'd.)

Additional Conditions

Facility Operating License No. DPR-69

| <u>Amendment No.</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
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| 317 | The requirement that the RODEX2 predicted rod internal pressure shall remain below the steady state system pressure is not applicable for the Framatome PROtect™ Lead Test Assemblies utilizing Chromium coated M5® cladding and chromia doped pellets for up to 3 cycles commencing with the implementation of Amendment 317. | With implementation of this Amendment |