



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

August 30, 2017

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS RE: CONTROL ROOM RECIRCULATION SIGNAL AND CONTROL ROOM EMERGENCY VENTILATION SYSTEM TECHNICAL SPECIFICATIONS (CAC NOS. MF8406 AND MF8407)

Dear Mr. Hanson:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 321 to Renewed Facility Operating License No. DPR-53 and Amendment No. 299 to Renewed Facility Operating License No. DPR-69 for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, respectively. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 22, 2016, as supplemented by letters dated November 10, 2016, and March 22, 2017. Publicly available versions are in Agencywide Documents Access and Management System under Accession Nos. ML16266A086, ML16315A112, and ML17081A303, respectively.

The amendments revise the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, TS 3.3.8, "Control Room Recirculation Signal (CRRS)," and TS 3.7.8, "Control Room Emergency Ventilation System (CREVS)," to remove certain control room emergency ventilation system components and associated testing of those components, which no longer serve the purpose of establishing and isolating the control room boundary.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's regular biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael L. Marshall, Jr." with a stylized flourish at the end.

Michael L. Marshall, Jr., Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosures:

1. Amendment No. 321 to DPR-53
2. Amendment No. 299 to DPR-69
3. Safety Evaluation

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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 321
Renewed License No. DPR-53

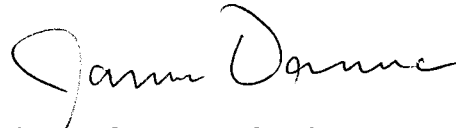
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated September 22, 2016, as supplemented by letters dated November 10, 2016, and March 22, 2017, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2. of Renewed Facility Operating License No. DPR-53 is hereby amended to read as follows:

2. Technical Specifications

(2) The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 321, are hereby incorporated into this license. Exelon Generation shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and Technical
Specifications

Date of Issuance: August 30, 2017



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 299
Renewed License No. DPR-69

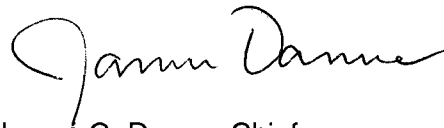
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated September 22, 2016, as supplemented by letters dated November 10, 2016, and March 22, 2017, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2. of Renewed Facility Operating License No. DPR-69 is hereby amended to read as follows:

2. Technical Specifications

(2) The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 299, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



James G. Danna, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and Technical
Specifications

Date of Issuance: August 30, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 321 AND 299

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2

RENEWED FACILITY OPERATING LICENSE NOS. DPR-53 AND DPR-69

DOCKET NOS. 50-317 AND 50-318

Replace the following page of the Renewed Facility Operating Licenses with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Remove
3

Insert
3

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

Remove
3.3.8-1
3.3.8-2
3.3.8-3
3.7.8-1
3.7.8-2
3.7.8-3
3.7.8-4

Insert
3.3.8-1
3.3.8-2

3.7.8-1
3.7.8-2
3.7.8-3
3.7.8-4

- (4) Exelon Generation 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 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 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. 321, are hereby incorporated into this license. Exelon Generation 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. 318 are hereby incorporated into this license. Exelon Generation shall operate the facility in accordance with the Additional Conditions.

(4) Secondary Water Chemistry Monitoring Program

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

- (4) Exelon Generation 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 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 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. 299, 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

3.3 INSTRUMENTATION

3.3.8 Control Room Recirculation Signal (CRRS)

LCO 3.3.8 One CRRS trip circuit and measurement channel shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CRRS trip circuit or measurement channel inoperable in MODE 1, 2, 3, or 4.	A.1 Place one post-loss-of-coolant incident filter fan in service.	1 hour
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours
C. CRRS trip circuit or measurement channel inoperable during movement of irradiated fuel assemblies.	C.1 Place one post-loss-of-coolant incident filter fan in service.	Immediately
	<u>OR</u> C.2 Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.8.1	Perform a CHANNEL CHECK on the control room radiation monitor channel.	In accordance with the Surveillance Frequency Control Program
SR 3.3.8.2	Perform a CHANNEL FUNCTIONAL TEST on the CRRS radiation monitor trip circuit and measurement channel. Verify CRRS high radiation setpoint is less than or equal to the Allowable Value of 6E4 cpm above normal background.	In accordance with the Surveillance Frequency Control Program
SR 3.3.8.3	Perform a CHANNEL CALIBRATION on the CRRS radiation monitor trip circuit and measurement channel.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.8 Control Room Emergency Ventilation System (CREVS)

LCO 3.7.8 Two CREVS trains shall be OPERABLE.

----- NOTES -----

1. Only one CREVS redundant component is required to be OPERABLE during movement of irradiated fuel assemblies when both Units are in MODE 5 or 6, or defueled.
 2. Only one CREVS train is required to be OPERABLE for the movement of irradiated fuel assemblies.
 3. The control room envelope (CRE) boundary may be opened intermittently under administrative control.
-

APPLICABILITY: MODES 1, 2, 3, 4,
During movement of irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Toilet area exhaust isolation valve inoperable.	A.1 Restore valve to OPERABLE status.	24 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One or more CREVS trains inoperable due to inoperable CRE boundary in MODE 1, 2, 3, or 4.</p>	<p>B.1 Initiate action to implement mitigating actions.</p>	<p>Immediately</p>
	<p><u>AND</u></p> <p>B.2 Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits.</p>	<p>24 hours</p>
	<p><u>AND</u></p> <p>B.3 Restore CRE boundary to OPERABLE status.</p>	<p>90 days</p>
<p>C. One CREVS train inoperable for reasons other than Condition A or B in MODE 1, 2, 3, or 4.</p>	<p>C.1 Restore CREVS train to OPERABLE status.</p>	<p>7 days</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CREVS trains inoperable for reasons other than Condition A or B during movement of irradiated fuel assemblies.	F.1 Suspend movement of irradiated fuel assemblies.	Immediately
G. Required Action and associated Completion Time of Condition A, B, C, or D not met in MODE 1, 2, 3, or 4.	G.1 Be in MODE 3. <u>AND</u> G.2 Be in MODE 5.	6 hours 36 hours



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 321 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 299 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-69

EXELON GENERATION COMPANY, LLC

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By application dated September 22, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16266A086), as supplemented by letters dated November 10, 2016, and March 22, 2017 (ADAMS Accession Nos. ML16315A112 and ML17081A303, respectively), Exelon Generation Company, LLC (the licensee) submitted a license amendment request (LAR) for changes to the Calvert Cliffs Nuclear Power Plant (Calvert Cliffs), Units 1 and 2, Technical Specifications (TSs). The supplemental letter dated March 22, 2017, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC or the Commission) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on January 31, 2017 (82 FR 8870).

The proposed changes would revise the Calvert Cliffs, Units 1 and 2, TS 3.3.8, "Control Room Recirculation Signal (CRRS)," and TS 3.7.8, "Control Room Emergency Ventilation System (CREVS)," to remove certain CREVS components and associated testing for those components, which no longer serve the purpose of establishing and isolating the control room boundary. The proposed TS changes would eliminate conditions, required actions, and completion times related to certain CREVS components that are no longer necessary to establish and isolate the control room envelope (CRE) boundary.

In 1997, the NRC staff requested that the licensee submit analyses to address the habitability of the Calvert Cliffs control room following various design basis accidents (Reference 1). The analyses submitted to the NRC (References 2 and 3) took credit for the more favorable atmospheric dispersion coefficients afforded by the sealed hatches over the control room HVAC dampers on the Auxiliary Building roof. The installation of the hatches was accomplished in 1999. The modification was performed in accordance with standard engineering practices and was reviewed in accordance with Title 10 of the *Code of Federal Regulations* Section (10 CFR) 50.59, which determined that prior NRC approval was not necessary to install the hatches. The licensee, however, withdrew the analyses from NRC consideration (ADAMS Accession No. ML003747236), pending resolution of several generic issues related to control room habitability.

Calvert Cliffs design basis does not postulate the occurrence of a tornado concurrent with a design basis accident or event in order to achieve safe shutdown. Design basis radioactive releases requiring CREV operation in full recirculation mode need not be considered with a tornado, which allows for a post-tornado cooling of the control room using fresh air from outside the control room ventilation boundary.

The licensee stated that the CREVS was modified in 1999 by adding leaktight hatches to cover the outside intake and exhaust openings. Though the isolation dampers are left in place, the licensee stated that they no longer form the boundary of the CRE and that the modification resulted in the CREVS operating in full recirculation mode at all times. With the CREVS operating in the full recirculation mode at all times, including normal operating and accident conditions, if a chemical, radiological, or smoke event occurred, the inlet and outlet dampers would not require damper actuation or system realignment to establish the CRE boundary and protect the control room operators. Post-modification, the CRE extended to the sealed hatches.

In response to Generic Letter 2003-01, dated June 12, 2003, the licensee informed the NRC that its method of permanently resolving control room habitability would involve performing a re-analyses using alternate source term allowed by 10 CFR 50.67. The analyses took credit for the favorable atmospheric dispersion coefficients created by the installed hatches that had been previously installed under 10 CFR 50.59.

With the hatches installed and the system in permanent recirculation, the dampers no longer have a safety function. Because the leak tight hatches are part of the CRE, appropriate conditions and inspections have been established. As stated in the amendment request, the hatches are controlled by TS 3.7.8, the hatches are subject to preventative maintenance in accordance with the licensee's Control Room Habitability Program, and in-leakage testing of the hatches is performed per Surveillance Requirement (SR) 3.7.8.4.

Since the dampers are in TS 3.7.8, Condition A and Condition C, the dampers continue to be tested by SR 3.7.8.3, which requires verification that each CREVS train actuates on an actual or simulated actuation signal at the current periodicity of 24 months. The procedure to test the dampers requires the dampers to be fully stroked and to locally observe the damper operation. The reason for this LAR is to eliminate the need to perform unnecessary surveillance testing. Once the dampers are removed from TS 3.7.8 Condition A and Condition C, SR 3.7.8.3 would no longer be applicable to the dampers.

2.0 REGULATORY EVALUATION

2.1 Description of the Calvert Cliffs' Design

The CREVS consists of an air conditioning system, which, in combination with an emergency filter train, can operate in a recirculation mode during accident conditions. The CREVS serves both the control room and the cable spreading room located in the floor below the control room. The air conditioning system operates year round, serving the common control room for Units 1 and 2 and associated cable spreading rooms. The air handling units and the direct expansion (DX) refrigeration equipment (i.e., condensing units) of the air conditioning system include redundant safety-related trains. In addition to the redundant refrigeration units, there is a third source of nonsafety-related cooling provided by a water chiller supplying a second set of cooling coils located in the safety-related air handling units. The DX refrigeration units and the water chiller are located outdoors. The air conditioning system also contains redundant return/exhaust fans, which have the capability to either return the circulated air to the CRE back

to the suction side of the air handling units or exhaust the air to outside. The toilet exhaust and the isolation valve are in a path that is different from the main outside air intake and exhaust openings and the associated isolation dampers. The toilet exhaust fan is tripped upon a safety injection signal and/or a Control Room Recirculation Signal actuation, causing the gravity damper to close due to lack of flow in the exhaust path and resulting in full recirculation of the CREV system during accident conditions.

The licensee stated that the original CREVS consisted of outside air inlet goosenecks, one for each train, connected to associated air handling unit suction ducts with redundant isolation dampers (i.e., two dampers per train). Likewise, the common return air exhaust to the outside has a gooseneck with redundant isolation dampers in the connecting ductwork. All the dampers are located inside a mechanical equipment room that is part of the CRE. With this configuration, the CREVS could be operated drawing 100 percent of the circulated air from the outside atmosphere and discharging all of it to the outside atmosphere. In the original configuration, if a chemical, radiological, or smoke event occurs, the ventilation system would be realigned to a full recirculation mode of operation by closing the air inlet and outlet isolation dampers. After isolating the inlet and outlet dampers, the recirculation mode of operation of CREVS would align the system for emergency recirculation with a portion of the CRE air redirected to a post-loss-of-coolant incident (LOCI) filter train unit consisting of high efficiency particulate air and charcoal filters and a fan. There are two post-LOCI filter trains with a single filter train required to operate to satisfy the accident analyses. The post-LOCI filter trains are also located within the CRE.

2.2 Description of the Proposed Changes

The licensee stated that the modifications performed by adding leaktight hatches would allow the CREVS normal intake and exhaust dampers to be removed from the TSs as the flow pathways are permanently isolated. Currently, the dampers are addressed in TS 3.3.8 and TS 3.7.8. The removal of the air inlet and outlet dampers from TS 3.7.8 will eliminate these dampers from the surveillance provision of SR 3.7.8.3.

The licensee proposed the following substantive changes to TS 3.3.8:

- Revise required actions and A.1 and C.1.

The licensee proposed the following substantive changes to TS 3.7.8:

- Delete Condition A, Required Action A.1, and the associated completion time in its entirety.
- Delete Condition C, Required Action C.1, and the associated completion time in its entirety.

The licensee proposed the following conforming editorial changes to TS 3.7.8:

- Redesignate Condition B and Required Action B.1 to Condition A and Required Action A.1, respectively.
- Redesignate Condition B and Required Action D.1 to Condition B and Required Action B.1, respectively.
- Redesignate Condition E and Required Action E.1 to Condition C and Required Action C.1, respectively.

- Redesignate Condition F and Required Actions F.1, F.2, and F.3 to Condition D and Required Actions D.1, D.2, and D.3, respectively.
- Redesignate Condition G and Required Action G.1 to Condition E and Required Action E.1, respectively.
- Redesignate Condition H and Required Action H.1 to Condition F and Required Action F.1, respectively.
- Redesignate Condition I and Required Actions I.1 and I.2 to Condition G and Required Actions G.1 and G.2, respectively.

2.3 Description of Regulatory Requirements

Title 10 of the *Code of Federal Regulations* Section 50.36, "Technical specifications," establishes the regulatory requirements related to the contents of the TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls.

Section 50.36(c)(2) of 10 CFR states that LCOs are the lowest functional capability or performance level of equipment required for safe operation of the facility, and when LCOs are not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the LCO is met.

Section 50.36(c)(3) of 10 CFR states that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, facility operation will be within safety limits, and the LCOs will be met.

Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, General Design Criteria (GDC)19, "Control room," requires that a control room be provided from which actions can be taken to operate the nuclear reactor safely under normal conditions and to maintain the reactor in a safe condition under accident conditions, including loss-of-coolant accident. Adequate radiation protection is to be provided to permit access and occupancy of the control room under accident conditions without personnel receiving radiation exposures in excess of specified values. Holders of an operating license using alternate source term under 10 CFR 50.67 shall meet the requirements of the criterion by ensuring the radiation exposures to control room operator dose shall not exceed 5 roentgen equivalent man (rem) total effective dose equivalent dose. The NRC approved the alternate source term LAR for Calvert Cliffs, Units 1 and 2 in Amendment Nos. 281 and 258, respectively (ADAMS Accession No. ML072210207).

3.0 TECHNICAL EVALUATION

The NRC staff reviewed the acceptability of the proposed changes to the TSs by evaluating whether the CREVS components that the licensee proposed removing from the TSs are needed for the safe operation of the facility. If the components are not needed for the safe operation of the facility, then the components and associated testing of the components are not required to be included in the TSs. The staff also verified that the proposed changes to the TSs assured that the necessary quality of systems and components is maintained, facility operation will be within safety limits, and the LCOs will be met.

Based on the background information provided by the licensee, the hatches were installed in 1999 rendering the damper safety-related functions unnecessary, but the dampers continued to be administered in accordance with TS 3.3.8 and TS 3.7.8. The installation of the hatches extended the CRE boundary from the dampers to the hatches. The damper position, whether open, closed, or in-between, will have no impact on the CRE boundary or the CREVS operation.

3.1 Changes to Technical Specifications

3.1.1 Changes to TS 3.3.8

The licensee is proposing to change Required Action A.1 to state: "Place one post-loss-of-coolant incident filter fan in service." Placing one CREVS train in recirculation mode required actions to close the inlet and outlet isolation dampers. This action is no longer necessary because the modification to seal the inlet fresh air supplies and the common air exhaust by leaktight hatches ensures that the system is continuously in a recirculation mode. Therefore, the proposed change is acceptable.

The licensee is proposing to change Required Action C.1 to state: "Place one post-loss-of-coolant incident filter fan in service." Placing one CREVS train in recirculation mode requires actions to close the inlet and outlet isolation dampers. This action is no longer necessary because the modification to seal the inlet fresh air supplies and the common air exhaust outlet by leaktight hatches ensures that the system is continuously in a recirculation mode. Therefore, the proposed change is acceptable.

3.1.2 Changes to TS 3.7.8

The licensee is proposing to eliminate Condition A, Required Action A.1, and completion time, in its entirety. Condition A, Required Action A.1, and completion time are no longer necessary because the modification to seal the inlet fresh air supplies and the common air exhaust by leaktight hatches ensures that the system is continuously in a recirculation mode, irrespective of the position of the dampers (e.g., open, partially open, closed). The dampers are no longer required for the safe operation of the facility. Therefore, the proposed change is acceptable.

The licensee is proposing to eliminate Condition C, Required Action C.1, and completion time in its entirety. Condition C, Required Action C.1, and completion time are no longer necessary, because the modification to seal the inlet fresh air supplies and the common air exhaust outlet by leaktight hatches ensures that the system is continuously in a recirculation mode, irrespective of the position of the dampers (e.g., open, partially open, closed). The position of the dampers is no longer required for the safe operation of the facility. Therefore, the proposed change is acceptable.

The licensee is proposing to revise Condition H to state: "Two CREVS trains inoperable for reasons other than Condition A or B during movement of irradiated fuel assemblies." The condition statements regarding the inoperability of the isolation valves in the outside air intake and exhaust to outside paths are no longer necessary, because the modification to seal the inlet fresh air supplies and the common air exhaust outlet by leaktight hatches ensures that the system is continuously in a recirculation mode, irrespective of the position of the dampers (e.g. open, partially open, closed). The dampers are no longer required for the safe operation of the facility. Therefore, the proposed change is acceptable.

3.1.3 Redesignation of Conditions and Required Actions

With the proposed deletion of Conditions and Required Actions A and C, the licensee proposed to redesignate the remaining Conditions B, D, E, F, G, H, and I, and associated required actions as Conditions A, B, C, D, E, F, and G, and Required Actions A, B, C, D, E, F, and G, respectively. This change also updates references to other conditions embedded in the condition statements to be consistent with the redesignation. The NRC staff concludes that the proposed redesignation (or renumbering) of the conditions and required actions is editorial in nature, and the updates to references to other conditions are necessary for proper implementation of the TSs. Therefore, the proposed changes are acceptable.

3.2 NRC Technical Conclusion

The NRC staff reviewed the licensee's basis for the proposed changes provided in the letter dated September 22, 2016, and the supplemental information provided in letters dated November 10, 2016, and March 22, 2017, and finds the proposed removal of the dampers from TS 3.3.8 and TS 3.7.8 acceptable. The staff concludes that with the installation of the sealed hatches, the CREVS will be maintained in a full recirculation mode at all times, thus requiring fewer components to be repositioned or activated to attain the post-accident mode of recirculation. The NRC staff further concludes that there is reasonable assurance that the installation of the leak tight hatches combined with the removal of the system inlet and dampers from the TSs will not adversely impact the CREVS operation, CRE integrity, or compliance with GDC-19 requirements. Therefore, the staff finds the proposed changes acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Maryland State official was notified of the proposed issuance of the amendments on July 11, 2017. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration on January 31, 2017 (82 FR 8870), and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from Dromerick, A. W., U. S. Nuclear Regulatory Commission, to Cruse, C. H., Baltimore Gas and Electric Company, "Extension of Control Room Habitability Analysis Submittal for Calvert Cliffs Nuclear Power Plant,) dated August 28, 1997,
2. Letter from Cruse, C. H., Baltimore Gas and Electric Company to U. S. Nuclear Regulatory Commission, "Response to Request for Additional Information, Control Room Habitability Analyses and Main Steam Line Break Analyses," dated March 17, 1998.
3. Letter from Cruse, C. H., Baltimore Gas and Electric Company to U. S. Nuclear Regulatory Commission, "Response to Request for Additional Information: Accident Dose Analyses and Control Room Habitability Analyses for the Maximum Hypothetical Accident, Fuel Handling Accident and Control Element Assembly Ejection Event," dated April 9, 1998.

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Date: August 30, 2017

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 – ISSUANCE OF AMENDMENTS RE: CONTROL ROOM RECIRCULATION SIGNAL AND CONTROL ROOM EMERGENCY VENTILATION SYSTEM TECHNICAL SPECIFICATIONS (CAC NOS. MF8406 AND MF8407) DATED AUGUST 30, 2017

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