

March 22, 2017

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

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

Subject: Response to Request for Additional Information to License Amendment Request - Control Room Emergency Ventilation System.

- References:
1. License Amendment Request - Control Room Emergency Ventilation System, dated September 22, 2016.
  2. Supplement to License Amendment Request - Control Room Emergency Ventilation System, dated November 10, 2016.

By letter dated September 22, 2016 (Reference 1) (ADAMS Accession No. ML16266A086), and supplemented by letter dated November 10, 2016 (Reference 2) (ADAMS Accession No. ML16315A112), Exelon Generation Company, LLC (Exelon) requested an amendment to the Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2, Technical Specifications (TSs) 3.3.8 "Control Room Recirculation Signal (CRRS)" and TS 3.7.8 "Control Room Emergency Ventilation System (CREVS)."

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the licensee's submittal and determined that additional information was needed in order to complete this review. A formal request for additional information (RAI) was transmitted to Mr. Enrique Villar (Exelon) by Mr. Richard Guzman (NRC) on March 16, 2017, following a clarification call held on March 15, 2017.

Attachment 1 to this letter contains the requested information followed by Exelon's response.

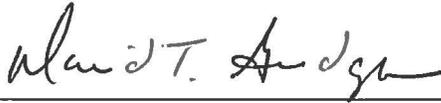
There are no regulatory commitments contained in this letter.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 22<sup>nd</sup> day of March 2017.

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If you should have any questions regarding this submittal, please contact Enrique Villar at 610-765-5736.

Respectfully,



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David T. Gudger  
Manager - Licensing & Regulatory Affairs  
Exelon Generation Company, LLC

Attachment: 1. Request for Supplemental Information

cc: NRC Regional Administrator, Region I  
NRC Senior Resident Inspector, CCNPP  
NRC Project Manager, NRR, CCNPP  
S. T. Gray, State of Maryland

w/attachments

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**ATTACHMENT 1**

**Request for Additional Information  
License Amendment Request  
Control Room Emergency Ventilation System  
Calvert Cliffs Nuclear Power Plant, Units 1 and 2  
CAC NOS. MF8406 and MF8407  
DOCKET Nos. 50-317 and 50-318**

In a license amendment request (LAR) dated September 22, 2016 (ADAMS Accession No. ML16266A086), as supplemented by letter dated November 10, 2016 (ADAMS Accession No. ML16315A112), Exelon Generation Company, LLC (Exelon or the licensee) requested an amendment to the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Technical Specifications (TSs) 3.3.8 "Control Room Recirculation Signal (CRRS)" and TS 3.7.8 "Control Room Emergency Ventilation System (CREVS)." In order to complete its review, the NRC staff requests the following additional information:

### **RAI-1**

The LAR stated that the CREV system was modified by adding leak tight hatches that cover the outside intake and exhaust openings and that the installation of the hatches altered the Control Room envelope (CRE) which resulted in the CREV system operating in full recirculation mode during normal and accident conditions. The licensee is proposing to remove TS 3.7.8 Conditions "A" and "C" in its entirety and to retain TS 3.7.8 Condition "B" and renumber it as Condition "A". Current TS Conditions A and C address the inoperability of the outside air intake and exhaust dampers of the CREV. Current TS Action "B" relates to the inoperability of the Toilet area exhaust isolation valve. The retention of Condition "B" indicates that the operating toilet exhaust fan will result in a continuous drawn-in leakage into the CRE during normal conditions. Please explain this apparent inconsistency between the statements in the LAR and the TSs.

### **Exelon Response**

The statement of the CREV system operating in full recirculation mode did not include the toilet exhaust isolation valve.

In the current mode of CREV system operation, the toilet exhaust isolation valve is normally open with the toilet exhaust fan running to remove stale air from the toilet area. The toilet exhaust isolation valve is a gravity damper and closes on loss of the exhaust fan flow. The toilet exhaust fan is tripped as a result of a Safety Injection Actuation Signal and/or a Control Room Recirculation Signal actuation. This isolation valve (i.e., damper) is in a separate duct routed in a different area from the dampers in the existing TS 3.7.8 Conditions "A" and "C". The toilet exhaust fan and isolation valve (damper) is not associated with the dampers in the existing TS 3.7.8 Conditions "A" and "C".

### **RAI-2**

The supplemental letter dated November 10, 2016, states that with the hatches installed and the system in permanent recirculation mode, the outside air intake and exhaust dampers no longer perform a safety function. Calvert Cliffs Updated Final Safety Analysis Report (UFSAR) Section 9.8.2.3, "Auxiliary Building Ventilating Systems," subsection "Control Room," contains the following statements:

In the event that both the non-safety related chiller and the safety-related condensers are rendered inoperable by a tornado, a post-tornado mode of cooling the Control Room and cable spreading rooms is available. In this mode

of cooling, the fresh air dampers are fully opened, the recirculation dampers are fully closed, and the exhaust damper is fully opened to allow Control Room and cable spreading room cooling using outside air only.

[...]

With the isolation dampers closed, smoke can be evacuated from the isolated zone by means of an auxiliary fan. This fan is selectively connected to the return duct of any zone by operating motorized dampers in the auxiliary duct system. Air from the outside is allowed to enter the supply duct of the isolated zone by operating motorized dampers and manually opening the roof mounted hatch and damper. The operating panel for the motorized dampers and smoke removal fan is located just outside the Control Room entrance in the heater bay area.

Are any of the dampers and hatches discussed in the UFSAR the same dampers and the associated hatches discussed in the LAR? If they are, please explain how the removal of the dampers from the TSs will impact the functional capability of the dampers as described in the UFSAR.

#### **Exelon Response**

Calvert Cliffs licensing basis does not postulate the occurrence of a tornado concurrent with a design basis accident or event in order to achieve safe shutdown. Therefore, design basis radioactive releases requiring CREV system operation in the full recirculation mode are not necessary to be considered. This allows for a post-tornado mode of cooling the Control Room to involve use of fresh air from outside the Control Room ventilation boundary.

The post-tornado mode of cooling is established using the dampers described in the LAR. They are addressed in the UFSAR as the fresh air dampers. In the event of a tornado that renders the cooling components of the CREV system inoperable, the hatches covering the roof openings over the fresh air dampers that are locked close can be opened. Operation of these hatches (unlocking and opening them) is a simple operation that requires no special tools and is controlled by procedure. Once the hatches are open, the operations staff would then use a keyswitch to operate the fresh air dampers and place them in the fresh air mode. The opening of these hatches can be completed prior to a heatup of the Control Room that would impact the ability of the plant to safely shutdown. Post tornado system operation would not change based on the removal of the dampers from the TS.

The dampers described in the LAR are not associated with the smoke removal function described in the UFSAR. The smoke removal system has separate ductwork, dampers and fans. Therefore, the smoke removal function will not be affected by the changes requested in the LAR.