

From: [Guzman, Richard](#)
To: enriquevillar@exeloncorp.com
Subject: Memo Email to File - Summary of October 25, 2016, Meeting with Exelon Generation Company to Discuss Calvert Cliffs Units 1 and 2 - GSI-191 Resolution and Closure of GL 2004-02
Date: Wednesday, November 23, 2016 11:41:26 AM

Enrique,

For your information, shown below is a summary of the October 25, 2016, Category 1 public meeting with Exelon regarding the Calvert Cliffs Units 1 and 2 resolution of GSI-191 and planned closure of GL 2004-02.

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**LICENSEE:** Exelon Generation Company, LLC  
**FACILITY:** Calvert Cliffs Nuclear Power Plant, Units 1 and 2  
**SUBJECT:** Summary of October 25, 2016, Meeting with Exelon Generation Co., LLC to discuss Calvert Cliffs Units 1 and 2 – Generic Safety Issue (GSI)-191 and Generic Letter (GL) 2004-02 (CAC Nos. MF8521 and MF8522)

On October 25, 2016, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of the Exelon Generation Company, LLC (Exelon, the licensee). The purpose of this meeting was for the licensee to provide an update to the NRC staff on the schedule for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2 (CCNPP) closure submittal for addressing GSI-191, “Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance,” in response to the NRC’s Generic Letter 2004-02, “Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized Water Reactors.” Specifically, the licensee presented updated information on its head loss test selection and containment response thermal hydraulic analysis.

The meeting notice and agenda, dated October 12, 2016, is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML16286A329. The licensee’s slides are available in ADAMS at Accession No. ML16307A490 and ML16328A283. The licensee presented a summary of the following:

- Thermal Hydraulic Analysis of Containment Results
- Thermal Hydraulic Response after Containment Spray Pump Trip
- Head Loss Testing – 2010 Test 5 Flow Rates, Flow Sweep Data
- Proposed Schedule for Closure Submittal and Future Meetings

As part of the follow-up actions from the previous update meeting on September 1, 2016, the licensee provided its results for the thermal hydraulic analysis of containment which included the cooldown scenarios for two containment spray pumps and two containment air

coolers (yields a slower cooldown) vs. two containment spray pumps and four containment air coolers (rapid cooldown). The licensee stated that in all cases, pool temperature is greater than 140 F when the containment pressure reduces to 2.8 psig. During its presentation of the thermal hydraulic analysis results, the staff asked whether the licensee had considered smaller line break sizes. The licensee indicated that the selection of the 2 square-foot break was appropriate and it would send the data plots for the 2 ft<sup>2</sup> break following the meeting (see supplemental slides at ML16328A283). During the discussion of the 2010 Head Loss Testing results, the licensee stated that Test 5 had been determined as the appropriate test to apply for defining the critical break size. The staff asked how the licensee planned to address Test 3, which had been previously submitted to the staff. The licensee stated that it would be covered in their risk-informed resolution since the results demonstrated higher head loss in which chemical and deaeration methods alone could not fully mitigate.

The licensee also briefly discussed its intention to present and revisit a deterministic approach that it plans to consider for closing certain aspects of GSI-191. The approach was initially discussed during the December 2015, update meeting in which the licensee stated would not require a license amendment request, as evaluated under 10 CFR 50.59. The licensee's current regulatory commitment is to submit its final supplemental response for closure of GL 2004-02 for CCNPP no later than three months after NRC's issuance of the safety evaluations on the STP risk-informed GSI-191 pilot project and the WCAP-17788; however, the licensee indicated that they do not plan to necessarily wait for the three-month date, and intend to submit it appropriately upon completion of the applicable analyses (current projection is late May/early June 2017).

Next steps: The next public meeting will be targeted for December 2016 or January 2017; the licensee plans finalize and update its analysis and calculations and present its formal risk-informed GSI-191 analysis and results during the next update meeting.

There were no members of the public in attendance via phone conference. No feedback forms were received. No decisions were made regarding the acceptability of Exelon's proposed submittals.

#### LIST OF ATTENDEES:

##### U.S. NUCLEAR REGULATORY COMMISSION

Juan Peralta  
Richard Guzman  
Steve Smith  
Paul Klein  
Candace Pfefferkorn  
Andrea Russell  
Matt Yoder  
Marioly Diaz Colon  
Ashley Smith\*

##### EXELON GENERATION COMPANY, LLC

Andre Drake  
John Haydin  
Ken Greene\*

ENERCON  
Craig Sellers  
Tim Sande\*

MPR ASSOCIATES, INC.  
Eric Federline

OTHER  
Ron Holloway (PM, Wolf Creek)\*

\*Participated via conference line