



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

March 2, 2016

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: ANNUAL ASSESSMENT LETTER FOR CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2 (REPORT 05000317/2015006 AND 05000318/2015006)

Dear Mr. Hanson:

On February 11, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its end-of-cycle performance review of Calvert Cliffs Nuclear Power Plant (Calvert Cliffs), Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from January 1, 2015, through December 31, 2015. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined that overall, Calvert Cliffs Units 1 and 2 operated in a manner that preserved public health and safety and met all cornerstone objectives. The NRC determined the performance at Calvert Cliffs Units 1 and 2 during the most recent quarter was within the Licensee Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because all inspection findings had very low (i.e., Green) safety significance, and all PIs indicated that your performance was within the nominal, expected range (i.e., Green). Calvert Cliffs Unit 2 was in the Regulatory Response Column of the NRC's ROP Action Matrix until the end of first quarter 2015, due to a finding of low to moderate safety significance (White) in the Emergency Preparedness cornerstone as documented in a White Notice of Violation (NOV) and Assessment Follow-Up Letter (ML14297A547¹) dated October 27, 2014. Calvert Cliffs Unit 2 transitioned to the Licensee Response Column at the beginning of second quarter 2015 after a supplemental inspection for the White finding was successfully completed, in accordance with Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," on February 6, 2015, as documented in NRC Supplemental Inspection Report 05000318/2015008 and Assessment Follow-Up Letter (ML15070A127) dated March 10, 2015. Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

¹ Designation in parentheses refers to an Agencywide Documents Access and Management System (ADAMS) Accession Number. Documents referenced in this letter are publicly available using the Accession Number in ADAMS.

The enclosed inspection plan lists the inspections scheduled through December 31, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. In addition to baseline inspections, the NRC will perform Inspection Procedure 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants," Inspection Procedure 71003, "Post Approval Site Inspection For License Renewal," and Temporary Instruction 2515-191, "Inspection of the Implementation of Mitigating Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communications/Staffing/Multi-Unit Dose Assessment Plans." The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security-related inspections, which will be sent via separate, non-publicly available correspondence.

In response to the accident at Fukushima, the Commission issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events." This Order requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation." This Order requires licensees to have a reliable means of remotely monitoring wide-range spent fuel pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC is conducting audits of licensee efforts towards compliance with these Orders. The audit was completed for Calvert Cliffs Units 1 and 2, and the information gathered will aid staff in development of the Final Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above by performing Temporary Instruction 2515-191, "Inspection of the Implementation of Mitigating Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communications/Staffing/Multi-Unit Dose Assessment Plans." As noted above, this inspection has been scheduled for Calvert Cliffs Units 1 and 2.

B. Hanson

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Please contact Anthony Dimitriadis at 610-337-6953 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director
Division of Reactor Projects

Docket Nos. 50-317 and 50-318
License Nos. DPR-53 and DPR-69

Enclosure:
Calvert Cliffs Inspection/Activity Plan

cc w/encl: Distribution via ListServ

B. Hanson

-3-

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DOCUMENT NAME: S:\ROP Assessment Meetings\ROP-16 EOC Review\Branch 1\Calvert Cliffs\2015 CC Annual Assessment Ltr.docx
ADAMS Accession No. **ML16061A169**

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|--|---------------|---|--------------------|---|--|
| <input checked="" type="checkbox"/> SUNSI Review | | <input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive | | <input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available | |
| OFFICE | RI/DRP | RI/DRP | RI/DRP | | |
| NAME | ARosebroo/AAR | ADimitriadis/AD | MScott/MLS w/edits | | |
| DATE | 2/18/16 | 2/18/16 | 2/22/16 | | |

OFFICIAL RECORD COPY

Calvert Cliffs
Inspection / Activity Plan
01/01/2016 - 12/31/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|--|---|----------------------|
| | Start | End | | | |
| | | | EXM8/8 - CALVERT CLIFFS INITIAL EXAM | | 4 |
| 1 | 05/16/2016 | 05/20/2016 | U01923 | FY16-CC INITIAL OPERATOR LICENSING EXAM | |
| 1 | 06/13/2016 | 06/24/2016 | U01923 | FY16-CC INITIAL OPERATOR LICENSING EXAM | |
| | | | ISI - U1 INSERVICE INSPECTION | | 1 |
| 1 | 02/16/2016 | 02/19/2016 | IP 7111108P | Inservice Inspection Activities - PWR | |
| 1 | 02/29/2016 | 03/04/2016 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | BI - RADIOLOGICAL SAFETY - HAZARDS O | | 1 |
| 1, 2 | 02/22/2016 | 02/26/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 02/22/2016 | 02/26/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1, 2 | 02/22/2016 | 02/26/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| | | | BI - RADIOLOGICAL SAFETY - AIRBORNE | | 1 |
| 1, 2 | 05/09/2016 | 05/13/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| | | | 71003 - U2 LR COMMITMENT INSPECTION - PHASE 2 | | 1 |
| 2 | 05/16/2016 | 05/20/2016 | IP 71003 | Post-Approval Site Inspection for License Renewal | |
| | | | ISFSI - ISFSI LOADING CAMPAIGN | | 4 |
| 1, 2 | 08/15/2016 | 08/19/2016 | IP 60855 | Operation Of An ISFSI | |
| 1, 2 | 08/15/2016 | 08/19/2016 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | | BI - RADIOLOGICAL SAFETY - EXT EXPOSURE | | 1 |
| 1, 2 | 08/22/2016 | 08/26/2016 | IP 71124.04 | Occupational Dose Assessment | |
| | | | TRI FI - TRIENNIAL FIRE INSPECTION | | 4 |
| 1, 2 | 09/12/2016 | 09/16/2016 | IP 7111105X | Fire Protection - NFPA 805 (Triennial) | |
| 1, 2 | 09/26/2016 | 09/30/2016 | IP 7111105X | Fire Protection - NFPA 805 (Triennial) | |
| | | | EP - EP PROGRAM INSPECTION | | 1 |
| 1, 2 | 09/12/2016 | 09/16/2016 | IP 7111402 | Alert and Notification System Testing | |
| 1, 2 | 09/12/2016 | 09/16/2016 | IP 7111403 | Emergency Preparedness Organization Staffing and Augmentation System | |
| 1, 2 | 09/12/2016 | 09/16/2016 | IP 7111405 | Correction of Emergency Preparedness Weaknesses and Deficiencies | |
| | | | BI - RADIOLOGICAL SAFETY - ALARA | | 1 |
| 1, 2 | 10/03/2016 | 10/07/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| | | | BI - RADIOLOGICAL SAFETY - RAD HAZ & PIV | | 1 |
| 1, 2 | 12/05/2016 | 12/09/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 12/05/2016 | 12/09/2016 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| 1, 2 | 12/05/2016 | 12/09/2016 | IP 71151-PR01 | RETS/ODCM Radiological Effluent Occurrences | |

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Enclosure

Calvert Cliffs
Inspection / Activity Plan
01/01/2016 - 12/31/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|---|---|----------------------|
| | Start | End | | | |
| | | | 71124 - RADIATION SAFETY - INSTRUMENTS | | 1 |
| 1, 2 | 01/09/2017 | 01/13/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | 71124 - RADIATION SAFETY - RETS | | 1 |
| 1, 2 | 02/06/2017 | 02/10/2017 | IP 71124.06 | Radioactive Gaseous and Liquid Effluent Treatment | |
| | | | 7111108P - U2 INSERVICE INSPECTION | | 1 |
| 2 | 02/21/2017 | 03/03/2017 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | TI-191 - FUKUSHIMA LESSONS-LEARNED | | 1 |
| 1, 2 | 04/17/2017 | 04/21/2017 | IP 2515/191 | Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012 | |
| | | | 71124 - RADIATION SAFETY - RAD HAZ PIV | | 1 |
| 1, 2 | 02/27/2017 | 03/03/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 02/27/2017 | 03/03/2017 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| 1, 2 | 02/27/2017 | 03/03/2017 | IP 71151-PR01 | RETS/ODCM Radiological Effluent Occurrences | |
| | | | 71124.08 - RADWASTE | | 1 |
| 1, 2 | 04/10/2017 | 04/14/2017 | IP 71124.08 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | |
| | | | MODS - PERMANENT PLANT MODIFICATIONS | | 3 |
| 1, 2 | 04/24/2017 | 04/28/2017 | IP 7111117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| 1, 2 | 05/08/2017 | 05/12/2017 | IP 7111117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| | | | 7111107T - TRIENNIAL HEAT SINK | | 1 |
| 1, 2 | 06/12/2017 | 06/16/2017 | IP 7111107T | Heat Sink Performance | |
| | | | 71152B - PI&R BIENNIAL TEAM INSPECTION | | 7 |
| 1, 2 | 07/31/2017 | 08/04/2017 | IP 71152B | Problem Identification and Resolution | |
| 1, 2 | 08/14/2017 | 08/18/2017 | IP 71152B | Problem Identification and Resolution | |
| | | | EP - EP EXERCISE EVALUATION | | 4 |
| 1, 2 | 09/11/2017 | 09/15/2017 | IP 7111401 | Exercise Evaluation | |
| 1, 2 | 09/11/2017 | 09/15/2017 | IP 71151 | Performance Indicator Verification | |
| | | | 7111111B - CC REQUAL INSP WITH P/F RESULTS | | 2 |
| 1, 2 | 11/13/2017 | 11/17/2017 | IP 7111111B | Licensed Operator Requalification Program | |
| | | | 71124 - RADIATION SAFETY - REMP | | 1 |
| 1, 2 | 10/02/2017 | 10/06/2017 | IP 71124.07 | Radiological Environmental Monitoring Program | |

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