



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

September 26, 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 - NRC EVALUATED
EMERGENCY PREPAREDNESS EXERCISE – INSPECTION REPORT
05000317/2017502 AND 05000318/2017502

Dear Mr. Hanson:

On September 14, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of the September 12, 2017, evaluated emergency preparedness exercise at Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2. On September 14, 2017, the NRC inspectors discussed the results of this inspection with Mr. Mark Flaherty, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

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 and its enclosure and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system, Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Raymond McKinley, Chief
Plant Support Branch 1
Division of Reactor Safety

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

Enclosure:

NRC Inspection Report No. 05000317/2017502
and 05000318/2017502

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T. Scardino, RAC Chair, FEMA Region III

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT - NRC EVALUATED
EMERGENCY PREPAREDNESS EXERCISE – INSPECTION REPORT
05000317/2017502 AND 05000318/2017502 DATED SEPTEMBER 26, 2017

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DOCUMENT NAME: G:\DRS\Plant Support Branch 1\EP INSPECTIONS\BASELINE\2017\CC EP EX 17\Calvert
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**U.S. NUCLEAR REGULATORY COMMISSION
REGION I**

Docket Nos.: 50-317 and 50-318

License Nos. DPR-53 and DPR-69

Report Nos. 05000317/2017502 and 05000318/2017502

Licensee: Exelon Generation Company, LLC

Facility: Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Location: Lusby, MD

Dates: September 11-14, 2017

Inspectors: J. Ambrosini, Sr. Emergency Preparedness Inspector, Division of Reactor
Safety (DRS), Region I
J. DeBoer, Emergency Preparedness Inspector, DRS, Region I
C. Crisden, Enforcement Specialist, Office of the Regional Administrator,
Region I
P. Ott, Operations Inspector, DRS, Region I

Approved By: Raymond McKinley, Chief
Plant Support Branch 1
Division of Reactor Safety

Enclosure

SUMMARY

Inspection Report 05000317/2017502; 05000318/2017502; 9/11-14, 2017; Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2; Exercise Evaluation, Exercise Evaluation – Scenario Review, Performance Indicator Verification.

This was an announced inspection conducted by four Region I-based inspectors. No findings were identified during the inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Emergency Preparedness

No findings were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01 – 1 sample)

a. Inspection Scope

On September 12, 2017, Exelon conducted a biennial emergency preparedness (EP) exercise at the Calvert Cliffs Nuclear Power Plant (CCNPP), Units 1 and 2. The NRC inspectors evaluated the adequacy of the licensee's conduct of the exercise and its capability to assess the Exelon staff performance via a formal critique process, as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b)(14). This overall exercise inspection activity represented the completion of one sample on a biennial cycle.

The exercise evaluation consisted of the following review and assessment:

- The adequacy of Exelon's performance in the biennial full-participation exercise regarding the implementation of the planning standards described in 10 CFR 50.47(b)(4), (5), (9), and (10), which are: emergency classification, offsite notification, radiological assessment, and onsite protective actions and public protective action recommendations, respectively.
- The overall adequacy of Exelon's emergency response facilities with regard to CCNPP Emergency Plan commitments. The facilities assessed were the Control Room Simulator, the Technical Support Center, and the Emergency Operations Facility.
- A review of other performance areas, such as: the licensee emergency response organization's (ERO) recognition of abnormal plant conditions, command and control, intra- and inter-facility communications, prioritization of mitigating activities, utilization of repair and field monitoring teams, interface with offsite agencies, staffing and procedure adequacy, and the overall implementation of the CCNPP Emergency Plan and its implementing procedures.
- A review of past performance issues from the last NRC CCNPP exercise inspection report and Exelon's EP drill reports, to determine the effectiveness of licensee corrective actions as demonstrated during the September 12, 2017, exercise and to ensure compliance with 10 CFR 50.47(b)(14).
- The licensee's post-exercise critiques, to evaluate Exelon's self-assessment of its ERO performance during the September 12, 2017, exercise and to ensure compliance with 10 CFR Part 50, Appendix E, Section IV.F.2.g.

Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08 – 1 sample)

a. Inspection Scope

Prior to the September 12, 2017, EP exercise, the NRC inspectors conducted an in-office review of the exercise objectives and scenario, which Exelon had submitted to the NRC, to determine if the exercise would test major elements of the CCNPP Emergency Plan as required by 10 CFR 50.47(b)(14). This overall exercise inspection activity represented the completion of one sample on a biennial cycle.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151 – 3 Samples)

a. Inspection Scope

The inspectors reviewed data for the Calvert Cliffs EP Performance Indicators (PI), which are: (1) Drill and Exercise Performance (DEP) (EP01); (2) ERO Drill Participation (EP02); and (3) Alert and Notification System (ANS) Reliability (EP03). The last NRC EP inspection at Calvert Cliffs was conducted in the third calendar quarter of 2016, so the inspectors reviewed supporting documentation from EP drills and tests from the third calendar quarter of 2016 through the third calendar quarter of 2017, to verify the accuracy of the reported PI data. The review of these PIs was conducted in accordance with NRC Inspection Procedure 71151, using the acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 7.

This inspection activity represented the completion of three samples.

b. Findings

No findings were identified.

4OA6 Meetings, including Exit

On September 14, 2017, the inspectors presented the results of this inspection to Mr. Mark Flaherty, Site Vice President and other members of Exelon's staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

**ATTACHMENT
SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT**

Licensee Personnel

M. Flaherty, Calvert Cliffs Site Vice President

V. Cwietniewicz, Exelon Mid-Atlantic Emergency Planning Manager

P. Amos, Calvert Cliffs Emergency Planning Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Section 1EP1: Exercise Evaluation

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan, Revision 028

EP-AA-1011, Radiological Emergency Plan Annex for Calvert Cliffs Station, Revision 1

Calvert Cliffs Emergency Plan Implementing Procedures

Calvert Cliffs September 12, 2017, Emergency Exercise Scenario Package

Condition Reports

2730749	4033388	4051712	4051734
2730481	2694715	4051465	4051712
2730735	4051721	4051233	4051554
3993365	4051708	4051695	4051535
3993399	4051703	4051690	
4022243	4051734	4051698	

Section 1EP8: Exercise Evaluation – Scenario Review

EP-AA-1000, Exelon Nuclear Standardized Emergency Plan (Revision 028)

EP-AA-1011, Radiological Emergency Plan Annex for Calvert Cliffs Station, Revision 1

Calvert Cliffs September 12, 2017, Emergency Exercise Scenario Package

Section 4OA1: Performance Indicator (PI) Verification

EP-AA-125-1001, EP Performance Indicator Guidance, Revision 9

ANS PI data, July 2016 – June 2017

DEP PI data, July 2016 – June 2017

ERO Drill Participation PI data, July 2016 – June 2017

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ANS	Alert Notification System
CCNPP	Calvert Cliffs Nuclear Power Plant
CFR	Code of Federal Regulations
DEP	Drill and Exercise Performance
EP	Emergency Preparedness
ERO	Emergency Response Organization
NRC	Nuclear Regulatory Commission
PI	Performance Indicator