



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

October 24, 2018

LICENSEE: Exelon Generation Company, LLC

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

SUBJECT: SUMMARY OF OCTOBER 4, 2018, PRE-APPLICATION MEETING WITH EXELON GENERATION COMPANY, LLC ON PLANNED SUBMITTAL OF LICENSING ACTION FOR CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2, RE: RISK-INFORMED CATEGORIZATION AND TREATMENT (EPID L-2018-LRM-0059)

On October 4, 2018, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Exelon Generation Company, LLC (Exelon, the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was for Exelon to provide an overview of its planned license amendment request for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2 (Calvert Cliffs), to allow the implementation of risk-informed categorization and treatment of structures, systems, and components (SS) for nuclear power reactors in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69. The meeting notice and agenda, dated September 14, 2018, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML18260A044. A list of attendees is enclosed.

Prior to the meeting, the NRC staff sent a list of suggested topics to the licensee (ADAMS Accession No. ML18270A364). The licensee presented information (ADAMS Accession No. ML18276A071). In its presentation, the licensee addressed each of the suggested topics.

In its planned 10 CFR 50.69 license amendment for Calvert Cliffs, the licensee stated that with the exception to the consideration of seismic risk, it planned to follow Nuclear Energy Institute (NEI) 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline," dated July 2005 (ADAMS Accession No. ML052910035). The representatives of Exelon focused on the licensee's plans to use an alternative approach for addressing seismic risk developed by Electric Power Research Institute (EPRI) in its license amendment. The alternative seismic approach is documented in EPRI Report 3002012988, "Alternative Approaches for Addressing Seismic Risk in 10 CFR 50.69 Risk-Informed Categorization," dated July 2018. The licensee stated that it plans to include the EPRI report in its entirety in its application, but its application would only rely on the portions of the report that support the Tier 1 approach described in the report. The licensee plans to submit its application in late October or early November 2018.

The NRC staff informed the licensee that:

- The licensee, in its application, should be very clear whether it considers the alternative seismic approach a probabilistic risk assessment (PRA) approach or a non-PRA approach.
- If the alternative seismic approach is a non-PRA approach, the licensee should be very clear whether it considers the alternative non-PRA approach to be conservative as discussed in the statements of consideration for 10 CFR 50.69.
- If the alternative seismic approach is a non-PRA approach, the licensee, in its application, should clearly describe how the alternative approach is part of the process for categorization. The NRC staff noted that it is not apparent how Tier 1 in the alternative seismic approach is part of a categorization process.
- The licensee should describe in its application what information may cause the licensee to reconsider the alternative seismic approach tier classification for Calvert Cliffs and how any potential change in classification will be implemented (e.g., through prior NRC approval).
- Information provided under other regulatory processes (e.g., audits to support 10 CFR 50.54(f) responses) that was not provided under oath and affirmation may need to be provided under oath and affirmation.

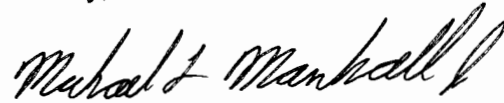
The NRC staff had several questions or observations, which included:

- The use of insights from case studies in determining the three tiers is not apparent.
- The assertions by Exelon representatives that (1) for Tier 1 plants, such as Calvert Cliffs, there is low likelihood that unique seismic insights will be identified by seismic PRA (compared to Tier 2 plants where unique insights may exist), and (2) any contribution identified by seismic PRA would be small seems to be technically unsupported.
- The rationale in EPRI Report 3002012988 for different treatment of Tier 1 and Tier 2 plants is not apparent, and it is unclear how the four case studies support such different treatment.
- It appears that some of the PRAs for the four case studies have not been used to support approved licensing actions comparable to the submittal that Exelon plans to submit for Calvert Cliffs. Since the PRAs used in the four case studies will be used to indirectly support a licensing action, the use of those PRAs to support approval of comparable licensing actions should be discussed.
- It appears that two of the four case studies used to develop the alternative seismic approach do not have a fire PRA. Considering that the approach seems to rely on the fire PRA insights and that one case study that has a fire PRA identified a nontrivial number of high safety significant seismic fragility groups, it is unclear how the licensee's approach will consider the fire PRA insights that may result in unique seismic insights.

Members of the public were in attendance. The NRC staff did not receive any questions or comments from members of the public; no public meeting feedback forms were received. No regulatory decisions were made during the meeting.

Please direct any inquiries to me at (301) 415-2871 or Michael.Marshall@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "Michael L. Marshall, Jr." in a cursive style.

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

Enclosure:
List of Attendees

cc: Listserv

LIST OF ATTENDEES

OCTOBER 4, 2018, PRE-APPLICATION MEETING WITH EXELON GENERATION

COMPANY, LLC ON PLANNED SUBMITTAL OF LICENSING ACTION FOR

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2,

RE: RISK-INFORMED CATEGORIZATION AND TREATMENT

Name	Affiliation
Mihaela Biro	U.S. Nuclear Regulatory Commission (NRC)
Jorge Cintron-Rivera	NRC
Jeff Circle	NRC
Rodney Clagg	NRC
Stephen Dinsmore	NRC
Michael Markley	NRC
Michael Marshall	NRC
Ed Miller	NRC
Mehdi Reisi Fard	NRC
Chris Roettgen	NRC
Shilp Vasavada	NRC
Diana Woodyatt	NRC
Pamela Burns	Southern Nuclear Operating Company
Robert Cavedo	Exelon Generation Company, LLC (Exelon)
James Landale	Exelon
Shannon Rafferty-Czincila	Exelon
Phil Tarpinian	Exelon
Enrique Villar	Exelon
Gerry Kindred	Tennessee Valley Authority
Greg Krueger	Nuclear Energy Institute
Allen Moldenhauer	Dominion Energy
Patrick O' Regan	Electric Power Research Institute
Barry Sloane	Jensen Hughes
William Webster	Dominion Energy

SUBJECT: SUMMARY OF OCTOBER 4, 2018, PRE-APPLICATION MEETING WITH EXELON GENERATION COMPANY, LLC ON PLANNED SUBMITTAL OF LICENSING ACTION FOR CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2, RE: RISK-INFORMED CATEGORIZATION AND TREATMENT (EPID L-2018-LRM-0059) DATED OCTOBER 24, 2018

DISTRIBUTION:

PUBLIC	RClagg, R-I
PM File Copy	CRoettgen, R-I
RidsNrrDorLpl1 Resource	MReisiFard, NRR
RidsRgn1MailCenter Resource	MBiro, NRR
RidsACRS_MailCTR Resource	MMarkley, NRR
RidsNrrLALRonewicz Resource	SDinsmore, NRR
RidsNrrPMCalvertCliffs Resource	JCircle, NRR
RidsNrrPMCalvertCliffs Resource	EMiller, NRR
JBowen, OEDO	DWoodyatt, NRR
CCook, OEDO	SVasavada, NRR
LBurkhart, OEDO	JCintron-Rivera, NRR
JJohnston, NRR	RMathew, NRR

ADAMS Accession No.: ML18292A820

OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LAiT	NRR/DORL/LPL1/LA
NAME	MMarshall	PTalukdar	LRonewicz
DATE	10/23/18	10/22/18	10/22/18
OFFICE	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/PM	
NAME	JDanna	MMarshall	
DATE	10/23/18	10/24/18	

OFFICIAL RECORD COPY