



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

April 23, 2015

LICENSEE: Exelon Generation Company, LLC

FACILITY: Byron Station, Units 1 and 2  
Braidwood Station, Units 1 and 2

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND EXELON GENERATION COMPANY, LLC, CONCERNING REQUEST FOR ADDITIONAL INFORMATION, SET 48, PERTAINING TO THE BYRON STATION AND BRAIDWOOD STATION, LICENSE RENEWAL APPLICATION HELD ON MARCH 26, 2015 (TAC NOS. MF1879, MF1880, MF1881, MF1882)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Exelon Generation Company, LLC (Exelon or the applicant), held a telephone conference call on March 26, 2015, to discuss and clarify the staff's concerns in request for additional information (RAI) B.2.1.24-1c, related to the Byron Station, Units 1 and 2, and the Braidwood Station, Units 1 and 2, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's concerns.

Enclosure 1 provides a listing of the participants, Enclosure 2 contains the RAI discussed with the applicant, including a brief description on the status of the items, and Enclosure 3 contains commentary documents provided by the applicant for the conference call; some sections were color-coded by the applicant for emphasis.

The applicant had an opportunity to comment on this summary.

**/RA/**

John Daily, Senior Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-454, 50-455, 50-456, and 50-457

Enclosures:

1. List of Participants
2. List of Draft Request for Additional Information
3. Flux Thimble Call—Thursday,  
March 26, 2015 (Exelon Submittal)

cc w/encls: Listserv

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ADAMS Accession No.: ML15106A733 (Package) ML15098A181 (Memo)  
ML15106A736 (Enclosure 3) \*concurring via email

OFFICE	LA:DLR	PM: RPB1:DLR	BC:RPB1:DLR	PM:RPB1:DLR
NAME	YEdmonds*	JDaily	YDiazSanabria	JDaily
DATE	4/16/15	4/16/15	4/21/15	4/23/15

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TELEPHONE CONFERENCE CALL  
BYRON STATION, UNITS 1 AND 2, AND BRAIDWOOD STATION, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS  
March 26, 2015

<b><u>Participants</u></b>	<b><u>Affiliation</u></b>
John Daily	U.S. Nuclear Regulatory Commission (NRC)
Dennis Morey	NRC
Roger Kalikian	NRC
Bart Fu	NRC
John Hufnagel	Exelon Generation Company, LLC (Exelon)
Michael Gallagher	Exelon
Al Fulvio	Exelon
Don Warfel	Exelon
Albert Piha	Exelon
Casey Muggleston	Exelon
Don Brindle	Exelon
Ralph Wolen	Exelon
John Mathews	Exelon
Gary Becknell	Exelon

TELEPHONE CONFERENCE CALL SUMMARY  
BYRON STATION, UNITS 1 AND 2, AND BRAIDWOOD STATION, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION

March 26, 2015

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Exelon Generation Company, LLC (Exelon or the applicant), held a telephone conference call on March 26, 2015, to discuss and clarify the staff's concerns in request for additional information (RAI) B.2.1.24-1c, related to the Byron Station, Units 1 and 2, and the Braidwood Station, Units 1 and 2, license renewal application. The telephone conference call was useful in clarifying the intent of the staff's concerns.

Applicability:

Braidwood, Units 1 and 2

Discussion

The staff and the applicant discussed the draft of RAI B.2.1.24-1c, followup RAI for the applicant's Flux Thimble Tube Inspection Aging Management Program (AMP), LRA Section B.2.1.24 (as applicable to Braidwood Units 1 and 2). This RAI is composed of three portions, each of which has a background, issue and request:

- (a) In Issue 1, the staff noted from the applicant's earlier responses that its program failed to obtain useful data from most of its flux thimble tubes during some recent outage inspections since 2012, due to restrictions inside the flux thimble tubes. The staff is concerned that the applicant has yet to identify the root cause and, as a result, is not able to implement effective corrective actions to resolve the problem. The staff is also concerned that an increasing trend in the numbers of uninspectable flux thimble tubes, unique to Braidwood, may be due to an age-related deformation of the tubes (e.g., reduction in inside diameter).
- (b) In Issue 2, the staff noted that several program elements in the applicant's program are not consistent with those of the GALL Report program. The staff observed that the applicant could ultimately be replacing several flux thimble tubes at some programmatic frequency instead of performing "monitoring and trending" inspections.
- (c) In Issue 3, the staff noted that the applicant's response dated February 23, 2015 (Table 2, Page 13), indicated that three tubes had to be replaced after only one cycle of service due to "indications of wear"; the staff noted that this appears to contradict the applicant's statement that "No flux thimble tube has been replaced due to age-related degradation in less than four (4) cycles" (since the staff considers wear to be aging-related). The applicant's RAI response (RS-15-071 dated February 23, 2015) had concluded that "the high initial wear was considered to be associated with startup... rather than aging," and the applicant further explained its position as declared in that RAI response. The staff stated it understood the applicant's response but disagreed with its conclusion, in that wear is wear and is aging-related. The staff also explained that the 3 Cycle 1 flux thimble tube wear-related failures were not the only focus of its concerns, however: other flux thimble tubes in subsequent operating cycles also showed problematic wear patterns (e.g., Braidwood Unit 1, Cycle 3; Braidwood Unit 1, 2010 (this one was a replacement thimble tube); Braidwood Unit 2; and others). The staff was also

ENCLOSURE 2

concerned that, in view of the applicant's supplied wear data and the results of some similar industry experiences, high wear rates can continue into (or originate in) subsequent cycles; therefore the applicant's proposal to replace flux thimble tubes at a three-cycle frequency may not appropriately account for worst-case wear rates and may not be adequately conservative.

The applicant offered two written commentaries to summarize its previously-submitted materials and to propose a forum for the discussion. Those commentary documents are included into this summary as Enclosure 3 (ADAMS Accession No. ML15106A736). Based on the discussions held, the applicant indicated it understood the staff's current issues and requests.

The applicant presented and discussed two primary response options, particularly two resolution paths that it was proposing. The applicant's stated that these both arose based upon an assumption that the ability (or inability) to present a "comprehensive set of eddy current data during its [upcoming] Braidwood outage" is a key to its ultimate RAI response. One path was based upon the possibility that it might not be able to obtain a comprehensive set of eddy current data. The second path was based upon the (more likely) outcome where it was indeed able to obtain that data. The applicant's understanding of follow-up RAI B.2.1.24-1c was that this ability/inability was a central concept that would drive its response in one way or the other.

The staff stated that Exelon's willingness to supply a full set of eddy current data could play a definite role in responding to the RAI, but the staff indicated that the RAI is directed primarily at the programmatic aspects of the AMP itself and the components of the AMP, and the requests and issues identified in the RAI would need to be responded to regardless of the data that might or might not come from the [upcoming] Braidwood outage. Therefore, if the applicant decided to include this data, it could be useful information; however, the staff did not believe this set of eddy current data in and of itself would completely address its concerns.

The staff and the applicant also discussed the general considerations related to — and the differences between — an AMP that is considered to be: (1) consistent with the GALL Report; (2) consistent with enhancements; (3) consistent with exceptions; (4) consistent with enhancements and exceptions; and (5) a plant-specific AMP. The applicant chooses which form of AMP it will implement and the staff reviews it under the applicable guidance of both the GALL Report and the SRP-LR.

The staff and the applicant agreed that the call and exchange of ideas on the RAI were helpful, and the applicant indicated it would consider the staff concerns as it prepares its responses. The conference call was then concluded.