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

August 17, 2015

LICENSEE: Exelon Generation Company, LLC

FACILITY: Braidwood Nuclear Station, Units 1 and 2, and Byron Nuclear Station, Unit Nos. 1 and 2

SUBJECT: SUMMARY OF MAY 20, 2015, MEETING WITH EXELON GENERATION COMPANY, LLC, ON DIGITAL UPGRADE OF NONSAFETY-RELATED CONTROL SYSTEMS (TAC NOS. MF5819, MF5820, MF5821, AND MF5822)

On May 20, 2015, a Category I 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 to discuss Exelon's plans for upgrading the nonsafety-related (NSR) control systems at Braidwood Nuclear Station, Units 1 and 2 (Braidwood), and Byron Nuclear Station, Units No. 1 and 2 (Byron). The meeting notice and agenda, dated March 18, 2015, is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15138A055. A list of attendees is provided as Enclosure 1.

The licensee stated that:

- The NSR control systems at Byron and Braidwood are the original construction and have been in service for more than 30 years.
- With planned License Extensions, the systems will need to remain in service and reliable for up to 33 additional years.
- The primary project objective is to improve equipment reliability and reduce exposure to plant transients and initiating events thereby improving margins of safety.

The licensee described Exelon and industry perspective regarding digital upgrades, the project scope, and the licensee's modernization strategy, as detailed in their presentation (see ADAMS Accession No. ML15133A473).

The NRC staff asked clarifying questions regarding the presented material.

The NRC staff made no decisions regarding the licensee's plans but made the following observations:

- Communications between licensees and the NRC staff prior to actual implementation of 10 CFR 50.59 design changes such as this one are very helpful.
- The terminology used is causing some confusion. The definitions should be clarified.

- The NRC staff will need further interaction with industry to evaluate the acceptability of the bounding of a Common Cause Failure, as a result of a design defect.

- The project design principles should consider Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, General Design Criteria 1 and Generic Letter 84-01, "NRC use of the Terms, "Important to Safety" and Safety Related"" (ADAMS Accession No. ML031150515), especially the second half of the second paragraph.

- The licensee should keep Region III and the NRR Project Manager informed of the status of the project.

- The project should identify standards to be used for digital NSR systems.

- The licensee stated that, while interface protocols exist for vetting safety-related digital modifications (i.e., ISG-06), there is no published corollary process for NSR digital modifications conducted under the 10 CFR 50.59 process. The NRC staff notes that 10 CFR 50.59 applies to NSR systems, as well as safety-related systems and the Standard Review Plan, Section 7.7 (ADAMS Accession No. ML070670042), applies to NSR systems, as well as safety-related systems.

- Common Cause Failure considerations should include Human Factors involvement regarding operator errors.

- The 10 CFR 50.59 evaluation must consider and be consistent with the Updated Final Safety Evaluation wording.

One member of the public was in attendance by phone. Public Meeting Feedback forms were not received.

Please direct any inquiries to me at 301-415-6606, or Joel.Wiebe@nrc.gov.

Joel S. Wiebe, Senior Project Manager
Plant Licensing III-2 and
Planning and Analysis Branch
Office of Nuclear Reactor Regulation

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

Enclosure:
List of Attendees

cc w/encls: Distribution via Listserv

LIST OF ATTENDEES

MAY 20, 2015, MEETING EXELON GENERATION COMPANY, LLC

DIGITAL UPGRADE OF NON-SAFETY CONTROL SYSTEMS

NRC Staff

Norbert Carte	Office of Nuclear Reactor Regulation (NRR)
Bernard Dittman	Office of Nuclear Regulatory Research
David Rahn	NRR
David Beaulieu	NRR
Joel Wiebe	NRR
Steven Arndt	NRR
Richard Stattel	NRR

Exelon Generation Company, LLC and Support Personnel

Joseph Bauer	Exelon Generation Company, LLC (Exelon)
Gordon Clefton	Nuclear Energy Institute (NEI)
Panfilo Federico	Westinghouse
Steven Hutchins	NEI
Bruce Geddes	Southern Energy Services
John Connelly	Exelon
Jason Remer	NEI
Paul Hunton	Duke
Jim Andrachek	Westinghouse
Kati Austgen	NEI
Jonathan Williams	Exelon
Richard Johnston	Exelon

Public

Joseph Fougere	MPR Associates

Enclosure

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/RA/
Joel S. Wiebe, Senior Project Manager
Plant Licensing III-2 and
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Docket Nos. 50-454, 50-455, 50-456 and 50-457

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NAME	JWiebe	SRohrer (SF /f/)	SArndt	DRahn(A) (w/comments)	TTate	JWiebe
DATE	8/12/16	8/12 /15	7/16/15	7/28/15	8/14/15	8/ 17/15

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