



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

April 20, 2020

LICENSEE: Entergy Operations, Inc.

FACILITY: Waterford Steam Electric Station, Unit 3

SUBJECT: SUMMARY OF JANUARY 16, 2020, CATEGORY 1 PUBLIC MEETING WITH ENTERGY OPERATIONS, INC. REGARDING A PLANNED LICENSE AMENDMENT REQUEST TO INSTALL DIGITAL SYSTEMS IN ACCORDANCE WITH DIGITAL INSTRUMENTATION AND CONTROL INTERIM STAFF GUIDANCE (DI&C ISG)-06 REVISION 2, "LICENSING PROCESSES" (EPID L-2019-LRM-0093)

On January 16, 2020, a Category 1 partially closed public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), representatives of Entergy Operations, Inc. (the licensee), and Westinghouse Electric Company, LLC. (Westinghouse) regarding a planned license amendment request (LAR) for Waterford Steam Electric Station, Unit 3 (Waterford 3). The meeting notice and agenda, dated December 31, 2019, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML19365A097. A public version of the licensee's presentation is available at ADAMS Accession No. ML20008F008. A list of attendees is enclosed with this summary.

By letter dated May 16, 2019 (ADAMS Accession No. ML19137A082), the licensee expressed intent to submit an LAR for an upgrade to the digital instrumentation and control (DI&C) system at Waterford 3 in spring 2020. The same letter also requested a fee waiver for the review of the application. A partial fee waiver was granted by letter dated October 30, 2019 (ADAMS Accession No. ML19280C270).

The purpose of this partially closed meeting was to further discuss a planned LAR to replace the core protection calculator (CPC) and control element assembly calculator (CEAC) systems with digital systems in accordance with DI&C Interim Staff Guidance (ISG) DI&C-ISG-06, Revision 2, "Licensing Processes" (ADAMS Accession No. ML18269A259). This letter summarizes the third presubmittal meeting pertaining to this planned LAR.

During the open portion of the meeting, the licensee presented an overview of the CPC and CEAC systems, including high-level descriptions of the functional architecture and the main control room. The licensee presented a description of the functional architecture of the proposed Westinghouse Common Q digital upgrade. The licensee stated that the LAR would include a licensing technical report prepared by Westinghouse. In addition, the licensee's presentation included a draft table of contents of the technical report.

The NRC staff and the licensee discussed the timeline for the submittal of the LAR. The licensee proposed to submit a draft version of the LAR in early June 2020 for cursory review by the NRC staff, which will be followed by a final partially closed presubmittal meeting. The licensee stated that the purpose of a draft submittal is for the NRC staff to provide initial feedback and potentially identify major deficiencies in the draft. The NRC staff discussed the

difference between the review of a draft LAR and a typical acceptance review. The NRC staff also discussed the value of a draft LAR in evaluating the licensee's vendor oversight plan (VOP) and assessing whether the level of development of the digital instrumentation architecture in the LAR has met the intent of DI&C-ISG-06 Revision 2. The NRC staff agreed to consider the proposal for reviewing a draft LAR.

During the closed portion of the meeting, the licensee presented proprietary details of the impact of the proposed digital modification on the current Waterford 3 technical specifications (TSs). The NRC staff expressed concern with the licensee's proposal to eliminate the channel function test surveillance requirement in the TSs and instead credit the self-diagnostic feature of the Common Q digital platform. The NRC staff and the licensee also discussed the failure mode effects analysis for the proposed changes and how this feature affected the proposed changes to the TS surveillance requirements. Further, the NRC staff and the licensee discussed whether a digital modification installed at Vogtle Electric Generating Plant, Units 3 and 4 was an appropriate precedent for the proposed modification at Waterford 3.

At the partially closed meeting held on September 19, 2019 (summary is available at ADAMS Accession No. ML19298B918), the NRC staff identified further topics as needing additional detail and discussion. At the current meeting, the licensee provided further proprietary details on those topics as follows:

- Disposition of Common Q platform generic open items and plant-specific action items
- Revision of the equipment qualification summary report,
- Timing analysis of the Common Q platform, and
- Activities to undertake during the NRC review of the LAR, including periodic meetings and use of an open items list.

The NRC staff discussed with the licensee the proposed VOP for the planned digital modification. The licensee stated it plans to audit Westinghouse regarding regression analyses for the CPC reference design, Waterford 3-specific changes to the CPC reference design, and traceability of system requirements and software and hardware testing. The NRC staff expressed interest in observing the licensee's audits because similar vendor audits had been normally conducted by NRC for prior applications.

The licensee also provided a list of regulatory commitments expected to be included with the LAR. Finally, the licensee described its approach to addressing human factors, such as staffing levels, automated actions, procedural changes, and multidisciplinary project teams. The NRC staff suggested that the licensee follow NUREG-0711, Revision 3, "Human Factors Engineering Program Review Model," and NUREG-0700, Revision 3, "Human-System Interface Design Review Guidelines" (ADAMS Accession Nos. ML12324A013 and ML19339H052, respectively), when addressing human factors issues in the LAR.

At the close of the meeting, The NRC staff and the licensee identified the following topics for a followup presubmittal meeting: additional details pertaining to the VOP, additional discussion of the failure mode effect analysis, and a detailed discussion of the impact of the proposed amendment on TSs. The followup presubmittal meeting was tentatively proposed for March of 2020. The followup meeting is also expected to be partially closed.

No regulatory decisions were reached at this meeting. No members of the public attended the meeting. No Public Meeting Feedback forms were received.

Please direct any inquiries to me at 301-415-1390 or [April.Pulvirenti@nrc.gov](mailto:April.Pulvirenti@nrc.gov).

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April Pulvirenti, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosures:  
List of Attendees

cc: Listserv

LIST OF ATTENDEES

JANUARY 16, 2019, PARTIALLY CLOSED PRESUBMITTAL MEETING WITH

ENTERGY OPERATIONS, INC

WATERFORD STEAM ELECTRIC STATION, UNIT 3

U.S. Nuclear Regulatory Commission

April Pulvirenti  
Steven Arndt  
Jennifer Dixon-Herrity  
DaBin Ki  
Louise Lund  
Jeanne Johnston  
Gregory Suber  
Juan Fernandez  
Eric Benner  
Jack Zhao  
Rich Stattel  
Samir Darbali  
Rossnyev Alvarado  
Paul Clifford  
Kristy Bucholtz  
Calvin Cheung

Excel Service Corporation

Pareez Golub

Jensen Hughes, Inc.

Alan Harris

Westinghouse Electric Company, LLC

Warren Odess-Gillett  
Steven Merkiel  
Eric Fredrickson  
Allen Denyer

Public

None

Entergy Operations, Inc.

David Constance  
Janice Cruz  
Loren Miller  
Christopher Talazac  
Roger Rucker  
Jacob Champagne  
William Steelman  
Ron Gaston  
William Truss  
John Schrage

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ENTERGY OPERATIONS, INC. REGARDING A PLANNED LICENSE  
AMENDMENT REQUEST TO INSTALL DIGITAL SYSTEMS IN ACCORDANCE  
WITH DIGITAL INSTRUMENTATION AND CONTROL INTERIM STAFF  
GUIDANCE (DI&C ISG)-06 REVISION 2, "LICENSING PROCESSES"  
(EPID L-2019-LRM-0093) DATED APRIL 20, 2020

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**ADAMS Accession No. ML20106E888**

**\*via e-mail**

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|--------|-------------------|-------------------|-------------------|-------------------|
| NAME   | APuvirenti        | PBlechman         | JDixon-Herrity    | APuvirenti        |
| DATE   | 04/20/2020        | 04/17/2020        | 04/20/2020        | 04/20/2020        |

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