



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

November 5, 2019

LICENSEE: Entergy Operations, Inc.

FACILITY: Waterford Steam Electric Station, Unit 3

SUBJECT: SUMMARY OF SEPTEMBER 19, 2019, CATEGORY 1 PUBLIC MEETING WITH ENTERGY REGARDING A PLANNED LICENSE AMENDMENT REQUEST TO REPLACE THE CORE PROTECTION CALCULATOR AND CONTROL ELEMENT ASSEMBLY CALCULATOR SYSTEMS WITH DIGITAL SYSTEMS IN ACCORDANCE WITH DIGITAL INSTRUMENTATION AND CONTROL INTERIM STAFF GUIDANCE (DI&C-ISG)-06, REVISION 2 (EPID L-2019-LRM-0056)

On September 19, 2019, a Category 1 partially closed public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Waterford Steam Electric Station, Unit 3 (Waterford 3), Entergy Operations, Inc. (Entergy, the licensee), and Westinghouse Electric Company, LLC (Westinghouse). The meeting notice and agenda, dated September 5, 2019, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML19260E669. A public version of the licensee's presentation is available at ADAMS Accession No. ML19255H682. A list of attendees is enclosed with this summary.

The purpose of this partially closed meeting was to discuss a planned license amendment request (LAR) to replace the core protection calculator (CPC) and control element assembly calculator (CEAC) systems with digital systems in accordance with Digital Instrumentation and Controls Interim Staff Guidance (DI&C ISG)-6, Revision 2, "Licensing Processes," December 2018 (ADAMS Accession No. ML18269A259).

By letter dated May 16, 2019 (ADAMS Accession No. ML19137A082), the licensee expressed intent to submit an LAR for an upgrade to the CPC and CEAC systems at Waterford 3 in spring 2020. The same letter also requested a fee waiver for the review of the application. The licensee requested at least two presubmittal meetings to discuss the planned LAR. This letter summarizes the first presubmittal meeting.

During the open portion of the meeting, the licensee presented a general overview of the planned digital modification and planned LAR. The general overview addressed the following topics:

- Needs/benefits
- Project milestones
- NRC fee waiver request
- CPC/CEAC system overview
- Planned digital upgrade overview
- WCAP-16-96-NP-A, "Software Program Manual for Common Q Systems"
- Revisions to technical specifications

- Electronic reading room (portal)
- Vendor oversight plan
- Topics of interest to NRC:
 - Regulatory basis
 - Human factors
 - Applicability of Institute of Electrical and Electronic Engineers (IEEE) standards
 - Data communications
 - Secure environments
 - Electromagnetic compatibility requirements

During the meeting, the licensee expanded on its planned use of the Alternate Review Process (ARP) contained within DI&C-ISG-06, including planned submittal of documents identified in Enclosure B of DI&C-ISG-06. Specifically, the licensee intends to make a single submittal under the ARP to receive an early-stage license amendment approval as outlined in DI&C-ISG-06. The NRC staff informed the licensee that this single submittal should include sufficient information to satisfy all of the ARP submittal items in Enclosure B. In addition, the licensee identified the application-specific documents that will be available for review during a regulatory audit.

The licensee described the vendor oversight plan, which will be included in the LAR. The NRC staff explained that the licensee could provide access to the oversight plan and documentation of vendor oversight activities through an audit, if desired. The licensee also stated the any additional documents to support the LAR may also be uploaded to an electronic reading room, or portal, to allow access to NRC staff. This is similar to arrangements that have been made with other applicants. Specific information needed to make a safety determination will additionally be placed on the public docket in accordance with Title 10 of the *Code of Federal Regulations* Section 50.4, "Written Communications."

During the licensee's presentation, the NRC staff requested Entergy to clarify the following items:

- Susceptibility of the maintenance test panel to a single failure.
- Use of a predetermined penalty factor and whether it will lead to a reactor trip.
- How data sharing between switches address the independence requirements in IEEE Std 603-1991.
- Whether the central processing unit load will exceed the limit specified in the Common Q topical report.
- Changes to the current diversity and defense-in-depth analytical approach with the CPC and CEAC systems.
- Schedule for equipment qualification.

During the closed portion of the meeting, Westinghouse presented proprietary details of the current CPC design installed in Waterford 3 and described differences between the current and proposed system designs, including explanations for why design differences were necessary. In addition, the licensee described the differences between the Waterford 3 systems and the systems installed at the Palo Verde Nuclear Generating Station.

At the close of the meeting, the NRC staff and Entergy agreed that a second presubmittal meeting should be held, tentatively in January of 2020. This meeting is also expected to be partially closed.

The NRC staff identified the following items to discuss in further detail in the next pre-application meeting:

- Further details of the vendor oversight plan.
- Potential licensee commitments and license conditions in the LAR that are associated with early design approval under the ARP.
- Potential reduction of technical specification surveillance testing by crediting self-diagnostic/testing functions of the Common Q platform.
- Crediting anticipated transient without scram in an updated diversity and defense-in-depth analysis.
- Addressing the independence clause in IEEE Std. 603-1991, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations."
- Disposition of Common Q platform generic open items and plant application-specific action items for Waterford 3.
- Future revision to the equipment qualification summary report after the submittal of the LAR.
- Timing analysis of the Common Q platform.
- Frequency of interactions and use of an open items list during the NRC review of the LAR.

No regulatory decisions were reached at this meeting. Although one member of the public called in to the meeting, no comments were provided to the NRC staff after the business portion of the meeting. No Public Meeting Feedback forms were received.

Please direct any inquiries to me at 301-415-1390 or April.Pulvirenti@nrc.gov.

/RA Thomas J. Wengert for/

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Docket No. 50-382

Enclosure:
List of Attendees

cc: Listserv

LIST OF ATTENDEES

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ADAMS Accession No.: ML19298B918

*via email

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