



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

April 29, 2025

LICENSEE: Union Electric Company

FACILITY: Callaway Plant, Unit No. 1

SUBJECT: SUMMARY OF MARCH 4, 2025, PARTIALLY CLOSED PREAPPLICATION TELECONFERENCE WITH UNION ELECTRIC COMPANY TO DISCUSS UPCOMING LICENSE AMENDMENT REQUEST (LAR) FOR THE TRANSITION TO A NEW WESTINGHOUSE FUEL TYPE FOR THE CALLAWAY PLANT, UNIT NO. 1 (EPID L-2025-LRM-0011)

On March 4, 2025, an Observation partially closed public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Union Electric Company, doing business as Ameren Missouri (the licensee) via teleconference. The purpose of the meeting was to discuss an upcoming license amendment request (LAR) for the transition of Callaway Plant, Unit No. 1 (Callaway), to a new Westinghouse fuel type. The meeting covered the amendment's scope, Technical Specifications (TS), regulatory compliance, and anticipated timeline. The meeting notice and agenda, dated February 14, 2025, are available in the NRC Agencywide Documents Access and Management System (ADAMS) at Accession No. ML25045A195. Enclosed is a list of attendees at the meeting.

The licensee provided its presentation slides (Package ML25051A345). During the meeting, the licensee and the NRC staff discussed the following aspects of the proposed application:

Key Discussion Points:

- **Fuel Transition:** Callaway will replace its current fuel with Westinghouse Prime Fuel assemblies using ADOPT fuel pellets and AXIOM cladding to improve performance and safety.
- **Analytical Methods:** The LAR will include updates to Full-Spectrum Loss-of-Coolant Accident (FSLOCA) evaluation models, PAD5 fuel performance models, and 3D Rod Ejection methodologies, aligning with the latest NRC-approved methods.
- **Incremental Burnup Extension:** Increasing rod average burnup beyond 62 gigawatt-days per metric ton of uranium (GWd/MTU) in specific fuel locations, utilizing recently approved Westinghouse topical reports.
- **TS Revisions:** Changes will include updated peak containment pressure, core safety limits, and approved fuel types.

Key Comments from NRC Staff:

- Rod Ejection Analysis: NRC requested a detailed, item-by-item compliance evaluation with Regulatory Guide 1.236, "Pressurized-Water Reactor Control Rod Ejection and Boiling-Water Reactor Control Rod Drop Accidents" (ML20055F490), ensuring all required assumptions and acceptance criteria are met.
- Containment Pressure and Sump Temperature: NRC requested calculations demonstrating the increased peak containment pressure does not impact sump temperature or net positive suction head (NPSH) availability.
- Alternate Source Term (AST) Analysis: NRC sought justification for why certain accident scenarios (e.g., steam generator tube rupture) were not reanalyzed under AST Revision 1.
- Spent Fuel Pool Criticality: This was flagged for discussion in the closed session to ensure the methodology aligns with NRC requirements.
- Project Timeline: NRC emphasized timely submittal (early May 2025) and responsive follow-ups to support the 16-month review period, referencing past precedents (e.g., Turkey Point).

No regulatory decisions were made as a result of these teleconferences. No members of the public identified themselves on the teleconferences. No public meeting feedback forms were received.

Please direct any inquiries to me at 301-415-8371, or by email at Mahesh.Chawla@nrc.gov.

/RA/

Mahesh Chawla, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure:
List of Attendees

cc: Listserv

LIST OF ATTENDEES

MARCH 4, 2025, MEETING WITH UNION ELECTRIC COMPANY

TO DISCUSS UPCOMING LICENSE AMENDMENT REQUEST

FOR THE TRANSITION TO A NEW WESTINGHOUSE FUEL TYPE FOR THE

CALLAWAY PLANT, UNIT NO. 1

U.S. Nuclear Regulatory Commission

- Mahesh Chawla – NRC Project Manager
- William Orders – Senior Project Manager
- Patrick Raynaud – Nuclear Methods and Fuel Analysis Branch
- Elijah Dickson – Radiation Protection and Consequence Branch
- Jack Vande Polder – Nuclear Methods and Fuel Analysis Branch
- Tony Nakanishi – Acting Chief, Licensing Branch
- Kevin Heller – Technical Reviewer, Nuclear Methods and Fuel Analysis Branch
- Brandon Wise – Nuclear Methods and Fuel Analysis Branch
- Gokul Vasudevamurthy – Technical Reviewer, Nuclear Systems Performance Branch
- Summer Sun – Nuclear Systems Performance Branch
- Jeremy Dean – Senior Nuclear Engineer, Nuclear Methods and Fuel Analysis Branch
- Clint Ashley – Safety and Plant Systems Engineer, Technical Specifications Branch

Westinghouse Representatives:

- Nathaniel Mackereth – Licensing
- Kyle Shelton – Thermo-Hydraulic Design
- Mark Ambrose – Fuel Rod Design
- Brian Ising – LOCA Integrated Services Group
- Joseph St. John, Principal Engineer, Nuclear Design

- Joshua Halsted, Engineer, Fuel Rod
- Scott Snider - Principal Engineer, Transient Analysis
- Robert Jakub - Principal Engineer, Transient Analysis
- James D. Smith - Manager, Licensing Project, Operating Plants Licensing
- Eric Husser Jr. - Project Manager, Fuel Hardware and Engineering Solutions

Union Electric Company

- Todd Witt – Director of Engineering Design and Regulatory Affairs
- Thomas B. Elwood – Manager, Regulatory Affairs
- Brian Richardson – Supervising Engineer, Reactor Engineering Fuels and Safety Analysis
- Jonathan Cordz – Engineer, Safety Analysis
- Donald Rickard – Contractor, Licensing Lead
- James Little – Contractor, Engineer
- Larry Russell – Contractor, Project Manager
- Christopher Ehmke – Reactor Engineer
- James B. McInvale – Contractor, Engineer
- Kurt Linsenbardt – Engineer, Safety Analysis
- James Knaup – Reactor Engineer
- Garry Chapman – Contractor, Equipment Qualification

Enclosure

SUBJECT: SUMMARY OF MARCH 4, 2025, PARTIALLY CLOSED PREAPPLICATION TELECONFERENCE WITH UNION ELECTRIC COMPANY TO DISCUSS UPCOMING LICENSE AMENDMENT REQUEST (LAR) FOR THE TRANSITION TO A NEW WESTINGHOUSE FUEL TYPE FOR THE CALLAWAY PLANT, UNIT NO. 1 (EPID L-2025-LRM-0011) DATED APRIL 29, 2025

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CAshley, NRR

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KHeller, NRR

JVande Polder, NRR

JDean, NRR

AAgrawal, RIV

MBloodgood, RIV

SSchwind, RIV

NBrown, RIV

APatz, OEDO

AAlen, OEDO

ADAMS Accession Nos.:

ML25099A141 (Package)

ML25045A195 (Meeting Notice)

ML25098A119 (Meeting Summary)

ML25051A347 (Meeting Slides)

***concurrence by email**

OFFICE	NRR/DORL/LPL4/PM*	NRR/DORL/LPL4/LA*	NRR/DSS/ARCB/BC	NRR/DSS/SFNB/BC*
NAME	MChawla	PBlechman	KHsueh	SKrepel
DATE	4/8/2025	4/10/2025	4/22/2025	4/22/2025
OFFICE	NRR/DSS/SNSB/BC*	NRR/DSS/STSB/BC*	NRR/DORL/LPL4/BC*	NRR/DORL/LPL4/PM*
NAME	DMurdock	SMehta (MHamm for)	TNakanishi	MChawla
DATE	4/22/2025	4/23/2025	4/29/2025	4/29/2025

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