

From: [Richard Guzman](#)
To: [Hipo Gonzalez](#)
Subject: Memo E-mail to File - Summary of October 18, 2022, Meeting with Dominion to Discuss Licensing Requests to Implement Framatome GAIA Fuel at Millstone Power Station, Unit 3 (EPID L:2022-LRM-0076)
Date: Wednesday, November 16, 2022 3:43:43 PM

Hipo,

For your information, shown below is a summary of the October 18, 2022, observation meeting with Dominion Energy Nuclear Connecticut, Inc. to discuss the licensee's proposed licensing actions supporting the planned transition to Framatome GAIA Fuel at Millstone Power Station, Unit No. 3. This communication will be added to ADAMS as an official agency record and Listserv'd. Please contact me if you have any questions regarding this meeting.

Rich Guzman

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OBSERVATION PUBLIC MEETING WITH
DOMINION ENERGY NUCLEAR CONNECTICUT, INC. (DENC).
TO DISCUSS PROPOSED LICENSING REQUESTS TO IMPLEMENT
BATCH FRAMATOME 17X17 GAIA FUEL AT
MILLSTONE POWER STATION, UNIT NO. 3
PRE-APPLICATION MEETING
MEETING SUMMARY
OCTOBER 18, 2022
DOCKET NO. 50-423

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Dominion Energy Nuclear Connecticut, Inc. (DENC, the licensee) held a public meeting via teleconference call on October 18, 2022, to discuss the licensee's proposed licensing requests to implement Framatome (FRM) GAIA Fuel at Millstone Power Station, Unit No. 3 (MPS3). The licensee's meeting slides are available in ADAMS at Accession No. ML22277A841. The licensee's presentation is summarized as follows:

Reason for Fuel Transition to Framatome GAIA Fuel

The licensee began the presentation with an overview of the impetus for its proposed transition to the FRM GAIA fuel at MPS3. The licensee stated that the change provides several benefits including: (1) the transition to M5 cladding which will have lower hydrogen uptake which will improve performance under accident conditions; (2) the GAIA fuel product will also provide the Dominion Energy fleet with greater security of supply and commercial

competitiveness; and (3) the GAIA fuel product will provide greater operational flexibility in the future. The licensee clarified “greater security of supply” to mean that its fuel vendor portfolio would be more balanced (i.e., such that the fuel product is more FRM than Westinghouse fuel) across the Dominion fleet.

Proposed Schedule

The licensee stated their first two submittals are on track for submission in 4Q2022, the next two by 2Q2023, and the fifth submittal by Q42023. DENC desires to stagger the proposed (five) submittals and minimize the potential for overlapping any linked requested licensing actions. Additionally, the proposed schedule allows appropriate time for the licensee to complete the necessary analyses and to include additional technical information addressed from a preceding licensing action (e.g., RAls identified from a linked submittal).

The submittals will have a requested approval date one year from the submission date to support full implementation by the MPS3 spring 2025 outage.

Proposed Submittal Strategy

The licensee provided an overview for each of the five fuel transition applications they intend to submit. The licensee highlighted that the submittals do not involve any changes for fuel enrichment or burnup or any accident tolerant fuel design features. The proposed licensing requests will be for a fuel product that is similar to the existing fuel product currently in operation, but just from a different vendor (Framatome in lieu of Westinghouse). The staff also posed several questions during the presentation which the licensee responded with clarification as indicated below.

- License Amendment Request (LAR) for approval of incorporation of Gadolinia fuel absorber in the MPS3 Spent Fuel Pool Criticality Safety Analysis
 - Scheduled for Q4 2022
 - Strategy of submittal was discussed during the pre-submittal meeting on September 7, 2022
- Request for approval of new Appendix F to Generic Fleet Report DOM-NAF-2-P-A containing qualification of VIPRE-D/ORFEO code/correlation pair and its associated Deterministic Design Limit (DDL)
 - Scheduled for Q4 2022
 - DOM-NAF-2-P, Appendix F document is the “Qualification of the Framatome GAIA ORFEO CHF correlations in the Dominion Energy VIPER-D Computer Code” and will be a Topical Report Submission for NRC review
 - LAR is expected to contain proprietary and non-proprietary attachments:
 - Description of critical heat flux correlations and VIPRE-D database and test assemblies
 - Benchmarking and qualification test results for VIPRE-D code/correlations
 - In response to a question from the NRC staff, the licensee confirmed that this particular application will be submitted as a topical report submission and clarified several acronyms applied in its presentation.

- LAR for approval GAIA Thermal-Mechanical Design Methods and site-specific application with GAIA
 - Scheduled for Q2 2023
 - LAR is expected to contain:
 - An exemption (10 CFR 50.46 and Appendix K) for M5 Cladding
 - Technical Basis for deviating from the Framatome topical report ANP-10337P-A
 - Discussion of TS changes for fuel melting limit, M5 cladding product and new reference in core operating limit report section with mark-up of TS changes
 - Proprietary and non-proprietary versions of thermal-mechanical performance summary
 - In response to a question from the NRC staff regarding the proposed deviation from ANP-10337P-A, the licensee explained that the deviation pertains to slight deviation to the intermediate area of the fuel grid.

- LAR for approval GAIA Small Break and Large Break Methods and site-specific application with GAIA
 - Scheduled for Q2 2023
 - LAR is expected to contain:
 - Discussion of TS changes for adding COLR references with mark-up of TS changes
 - Proprietary and non-proprietary versions of realistic large break and small break LOCA summary reports
 - In response to a question from the NRC staff, the licensee clarified that the LAR is not proposing any new or significant changes from prior submissions, only for implementation of the cited topical report references.

- LAR for approval GAIA Reload Implementation Activities
 - Scheduled for Q4 2023)
 - LAR is expected to contain:
 - Technical basis for adding the Dominion fleet report DOM-NAF-2, Appendix F to the COLR list of methodologies
 - Technical basis for adding the FRM ANP-10338 P-A to COLR list of methodologies
 - Additional analysis required by 10 CFR 50.59 as necessary for implementing the reload
 - The NRC staff asked several questions regarding the mixed core methodology departure from nucleate boiling (DNB). The licensee stated that it is not submitting a mixed core methodology for NRC review. In the past, the licensee has utilized the vendor method to perform the analyses to determine the mixed core penalty value by repeating the vendor methodology, getting the same result, and modeling it accordingly to determine the appropriate penalty under the 10 CFR 50.59 process. However, the licensee does not have a vendor approved method to

emulate for this design. The staff also asked whether the licensee has a statistical process for determining the DNB value. The licensee indicated that there are certain limitations and conditions associated with its use. The licensee considers the change under the 10 CFR 50.59 process as a design basis limit for a fission product barrier that would need to be submitted for NRC approval. The licensee further stated that the specific limit would be submitted for approval, not the actual method to determine the penalty (as the method has previously been approved). DENC acknowledged that it will be addressing the limitations and conditions for each topical report in a separate section of the LAR. The licensee also clarified that the Dominion will be implementing Appendix E under the topical report submission, but not for the MPS3-specific application. Finally, DENC stated that it is not proposing the mixed core calculation methodology to be approved generically, as they have previously submitted applications in the past (e.g., for North Anna) showing how the mixed core penalty calculation was performed and getting approval for the resulting penalty value under the mixed core configuration. The licensee plans to take this same approach by summarizing the analysis with the results to include the resulting mixed core penalty value. The licensee intends to include this analysis summary in the LAR.

Conclusion

DENC completed its presentation with no open/unanswered questions from the staff and summarized its conclusion by stating that the planned Q4 2022 submittals are on track while the technical analysis and licensing work supporting the planned submittals for 2023 are ongoing. No decisions were made regarding the acceptability of the licensee's proposed submittal. There were no members of the public in attendance. To date, no public meeting feedback forms have been submitted through the NRC public meeting feedback system.

LIST OF ATTENDEES
OCTOBER 18, 2022, CATEGORY 1 PUBLIC MEETING WITH
DOMINION ENERGY NUCLEAR CONNECTICUT, INC. (DENC),
TO DISCUSS LICENSING REQUESTS
TO IMPLEMENT BATCH FRAMATOME GAIA FUEL AT
MILLSTONE POWER STATION, UNIT NO. 3
DOCKET NO. 50-423

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ATTENDEE	ORGANIZATION
Richard Guzman	U.S. Nuclear Regulatory Commission (NRC)
Joshua Kaizer	NRC
John Lehning	NRC
Jeremy Dean	NRC
Mathew Panicker	NRC

Ahsan Sallman	NRC
Santosh Bhatt	NRC
Shayan Sinha	DENC
Dan Smith	DENC
Matt Adams	DENC
John Harrell	DENC
James Stanley	DENC
Chris Clemens	DENC
Scott Luchau	DENC
Brian Mount	DENC
Ruxandra Bobolea	DENC
Brian Vitiello	DENC
Brian Kinney	DENC
Isaac Sayre	DENC
Jigar Patel	DENC
Timothy Olsowy	DENC
Bob Clarke	Framatome Inc. (Framatome)
Rick Williamson	Framatome
Scott D'Orio	Framatome
TJ Smiley	Framatome
Linda Andrews	Framatome
Roberto Rubilar	Framatome
Brian Painter	Framatome
Paul Clifford	Framatome
Nathan Hottle	Framatome
Mustafa Siddiqi	Framatome
Brandon Williams	Framatome