



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

March 22, 2024

Gayle Elliott, Director
Licensing and Regulatory Affairs
Framatome Inc.
3315 Old Forest Road
Lynchburg, VA 24501

SUBJECT: THE U.S. NUCLEAR REGULATORY COMMISSION STAFF'S ACCEPTANCE OF SUPPLEMENTAL INFORMATION TO SUPPORT INCREASED ENRICHMENT AND BURNUP AND REVISED SCHEDULE FOR THE REVIEW OF FRAMATOME'S TOPICAL REPORT, ANP-10350P, REVISION 0, "FRAMATOME METHODOLOGY FOR BOILING WATER REACTORS: EVALUATION AND VALIDATION OF APOLLO2-A/ARTEMIS-B" (EPID L-2022-TOP-0038)

Dear Gayle Elliott:

By letter dated February 21, 2024 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML24057A358), Framatome, Inc. (Framatome) submitted supplemental information to Topical Report (TR) ANP-10350P, Revision 0, "Framatome Methodology for Boiling Water Reactors: Evaluation and Validation of APOLLO2-A/ARTEMIS-B," for U.S. Nuclear Regulatory Commission (NRC) staff's review. The supplemental information supports increased enrichment and burnup for boiling water reactor fuels. The NRC staff had agreed to consider the supplement information as part of the ongoing review of ANP-10350P, Revision 0, in discussions with Framatome representatives during a partially closed meeting held on February 21, 2023 (ADAMS Accession No. ML23053A259).

The NRC staff have found that the supplemental information is sufficient to begin its detailed technical safety review of the new information in combination with the initial June 30, 2022, ANP-10350P, Revision 0, submittal (ADAMS Package Accession No. ML22186A071). Below are discussions and the NRC staff's rationale for planned schedule revisions and level of effort increases to accommodate review of the supplemental information and the overall TR. Based on the information provided in your submittal, the NRC staff plans to conduct an audit by end of May 2024, issue Requests for Additional Information (RAIs) by July 2024, the draft safety evaluation (SE) by February 28, 2025, and final SE by May 30, 2025, as annotated in the enclosed schedule. The draft SE completion date assumes 60 days for RAI responses, but will be adjusted, if necessary, to accommodate any delays in the responses. The enclosed schedule provides dates for the initial planned, actual, and revised milestones for the overall review.

Additionally, the NRC staff estimates that it will require an increase of approximately 500 hours to the current 900 hours that was planned for the initial June 30, 2022, submittal, for a total of 1400 hours to complete the safety review. The Advisory Committee on Reactor Safeguards

(ACRS) plans to review this TR, and as such, subcommittee and full committee meetings are estimated to occur in March 2025, and April 2025, respectively to facilitate this effort. The specific ACRS meeting dates will be confirmed and scheduled later.

Section 170.21 of Title 10 of the *Code of Federal Regulations* requires that TRs are subject to fees based on the full cost of the review. You did not request a fee waiver; therefore, NRC staff-hours will be billed accordingly.

If you have any questions regarding the TR review, please contact me at 301-415-6695 or via email at Ngola.Otto@nrc.gov.

Sincerely,

/RA/

Ngola A. Otto, Project Manager
Licensing Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No.: 99902041

Enclosure:
Initial Planned, Actual, and Revised Schedule
with increased enrichment supplement Review

**Initial Planned, Actual, and Revised Schedule
with Increased Enrichment Supplement Review**

| <u>Milestone</u> | <u>Initial Planned</u> | <u>Actual</u> | <u>Revised</u> |
|---|-------------------------------|----------------------|-----------------------|
| Initial Submittal | Jun. 30, 2022 | Jun. 30, 2022 | ---- |
| Acceptance | Aug. 19, 2022 | Aug. 22, 2022 | ---- |
| Audit-1 | Dec. 5-8, 2022 | Dec. 5-8, 2022 | ---- |
| Issued Requests for Additional Information (RAI) – Set #1 | Jan. 26, 2023 | Jan. 26, 2023 | ---- |
| Issue RAIs – Set #2 | Mar. 31, 2023 | Apr. 14, 2023 | ---- |
| Response to RAIs – Set #1 | May 31, 2023 | Jun. 30, 2023 | ---- |
| Response to RAIs – Set #2 | Jun. 30, 2023 | Oct. 6, 2023 | ---- |
| Increased Enrichment & Burnup Supplemental Information | Dec. 2023 | Feb. 21, 2024 | ---- |
| Audit-2 | May 2024 | TBD | ---- |
| Issue RAIs – Set #3 | Jul. 2024 | TBD | ---- |
| Response to RAIs – Set #3 | Sept. 2024 | TBD | ---- |
| Issue Draft SE | Apr. 26, 2024 | ---- | Feb. 28, 2025 |
| ACRS Subcommittee Meeting | Jun. 2024 | ---- | Mar. 2025 |
| ACRS Full Committee Meeting | Jul. 2024 | ---- | Apr. 2025 |
| Issue Final SE | Aug. 30, 2024 | ---- | May 30, 2025 |

SUBJECT: THE U.S. NUCLEAR REGULATORY COMMISSION STAFF'S ACCEPTANCE OF SUPPLEMENTAL INFORMATION TO SUPPOERT INCREASED ENRICHMENT AND BURNUP AND REVISED SCHEDULE FOR THE REVIEW OF FRAMATOME'S TOPICAL REPORT, ANP-10350P, REVISION 0, "FRAMATOME METHODOLOGY FOR BOILING WATER REACTORS: EVALUATION AND VALIDATION OF APOLLO2-A/ARTEMIS-B" (EPID L-2022-TOP-0038) DATED: MARCH 22, 2024

DISTRIBUTION:

| | |
|-----------------------------|--------------------|
| PUBLIC | ASmith, NRR |
| RidsACRS_MailCTR Resource | ACollier, NRR |
| RidsNrrLADHarrison Resource | GGeorge, NRR |
| RidsOgcMailCenter Resource | SKrepel, NRR |
| RidsNrrDorlOd Resource | NOtto, NRR |
| RidsNrrDssSfnb Resource | JDonoghue, NRR |
| RidsNrrDorlLLpb Resource | MJRoss-Lee, NRR |
| RidsResOd Resource | YDiazSanabria, NRR |
| RidsNrrDss Resource | BPham, NRR |
| KHeller, NRR | |

ADAMS Accession Number: ML24067A242

***via email**

| | | | | |
|--------|-------------------|-------------------|------------------|-------------------|
| OFFICE | NRR/DORL/LLPB/PM* | NRR/DORL/LLPB/LA* | NRR/DSS/SFNB/BC* | NRR/DORL/LLPB/BC* |
| NAME | Notto | DHarrison | SKrepel | GGeorge |
| DATE | 03/18/2024 | 03/19/2024 | 03/20/2024 | 03/21/2024 |
| OFFICE | NRR/DORL/LLPB/PM | | | |
| NAME | Notto | | | |
| DATE | 03/22/2024 | | | |

OFFICIAL RECORD COPY