



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

December 18, 2018

Mr. Gary Peters, Director  
Licensing and Regulatory Affairs  
Framatome Inc.  
3315 Old Forest Road  
Lynchburg, VA 24501

SUBJECT: ACCEPTANCE OF REVIEW OF FRAMATOME INC. TOPICAL REPORT  
ANP-10339P, "ARITA - ARTEMIS/RELAP INTEGRATED TRANSIENT  
ANALYSIS METHODOLOGY" (EPID L-2018-TOP-0034)

Dear Mr. Peters

By letter dated August 28, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18242A443), Framatome, Inc. (Framatome) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) ANP-10339P, "ARITA - ARTEMIS/RELAP Integrated Transient Analysis Methodology." ANP-10339P (ARITA) presents a coupled code system and evaluation models for the analysis of pressurized water reactor non-loss-of-coolant accident events identified in Chapter 15 of NUREG-0800 (Standard Review Plan). The purpose of this letter is to provide the results of the NRC staff's acceptance review of this TR. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to begin its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis.

Initially, the NRC staff reviewed the application and concluded that it did not provide technical information in sufficient detail to enable the NRC staff to begin its detailed technical review and make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment. However, in a closed meeting on November 16, 2018 (Accession No. ML18309A329), the NRC staff discussed the nature of the insufficient technical information in detail with Framatome. Framatome provided justification that sufficient technical information exists, is in-hand, and is readily available for submittal to the NRC. Given the ready availability of this additional information, the NRC has found TR ANP-10339P acceptable for review with the understanding that the information delineated in the enclosure to this letter must be promptly provided for the NRC staff to begin its detailed technical review.

Based on the information provided in the TR and discussions during the closed meeting on November 16, 2018, the NRC staff expects to issue its requests for additional information by November 15, 2019, and issue its final safety evaluation by August 31, 2021. This schedule information takes in consideration the NRC's current review priorities and available technical resources and may be subject to change. If modifications to these dates are deemed necessary, we will provide appropriate updates to this information. The NRC staff estimates

that the review will require approximately 1,520 staff hours including project management and contractor time. The review schedule milestones and estimated review costs were discussed and agreed upon in an email exchange between Framatome Licensing Engineer, Jerald Holm, and the NRC staff on December 11, 2018.

During its acceptance review of ARITA, the NRC staff identified several areas of emergent complexities and challenges that could readily cause changes to this initial forecasted completion date and forecasted hours. These areas are:

- The novel uncertainty analysis approach employed by ARITA, specifically:
  - Sampling of select defined event conditions
  - Justification for applying 95/95 criterion to potentially non-cohesive distributions
  - Justifications for parameter uncertainty distributions
  - Sampling range of truncated uncertainty distributions
  - Reselection of random seed in response to failure to meet acceptance criteria
  - Development of parameter uncertainty ranges at time of application
  - Approach to determining multiple figures of merit
- Ongoing concurrent NRC review of ANP-10323P, Revision 1, "GALILEO Fuel Rod Thermal-Mechanical Methodology for Pressurized Water Reactors" (Accession No. ML18186A356), which is a component of the ARITA methodology

Should there be any additional emergent complexities or challenges during the review that would cause changes to the initial forecasted completion date or significant changes in the forecasted hours, the reasons for the changes, along with the new estimates, will be provided to Framatome.

If you have any questions, please contact the Framatome Project Manager, Jonathan Rowley, at (301) 415-4053.

Sincerely,

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Jonathan Rowley, Project Manager  
Licensing Processes Branch  
Division of Licensing Projects  
Office of Nuclear Reactor Regulation

Docket No. 99902041

Enclosure:  
As stated

SUBJECT: ACCEPTANCE OF REVIEW OF FRAMATOME INC. TOPICAL REPORT ANP-10339P, "ARITA - ARTEMIS/RELAP INTEGRATED TRANSIENT ANALYSIS METHODOLOGY" (EPID L-2018-TOP-0034) DATED DECEMBER 18, 2018

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**REQUIRED SUPPLEMENTAL INFORMATION IDENTIFIED**  
**DURING NRC STAFF ACCEPTANCE REVIEW OF**  
**TOPICAL REPORT ANP-10339P,**  
**“ARITA - ARTEMIS/RELAP INTEGRATED TRANSIENT ANALYSIS METHODOLOGY”**

Supplemental Information Request 1:

The U.S. Nuclear Regulatory Commission (NRC) staff has identified that there is insufficient technical detail provided within Topical Report ANP-10339P pertaining to the process by which the six event classification phenomena identification and ranking tables (PIRTs) were developed, including all of the phenomena considered for each of the PIRTs, their associated rankings, and the justification for the rankings. This information is necessary for the NRC staff to focus its detailed review efforts in assessing adequacy of the proposed code system and evaluation models to each of the identified non-loss-of-coolant accident event categories in Chapter 15 of the Standard Review Plan (NUREG-0800). Provide information, preferably in a tabulated form, that presents all the phenomena considered across each of the six event-classification PIRTs, the associated ranking of each phenomena (i.e., non-applicable, low, medium, or high), and the justification for each ranking.