



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

January 26, 2023

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

SUBJECT: REQUEST FOR U.S. NUCLEAR REGULATORY COMMISSION CONCURRENCE REGARDING MINOR DIFFERENCE IN GAIA GEOMETRY RANGE FOR CRITICAL HEAT FLUX TESTING SPECIFIED IN ANP-10341P-A, REVISION 0, "THE ORFEO-GAIA AND ORFEO-NMGRID CRITICAL HEAT FLUX CORRELATIONS," AND THE GAIA FUEL DESIGN (EPID L-2022-TOP-0034)

Dear Ms. Elliott:

By letter dated May 24, 2022 (ADAMS Package Accession No. ML22146A206), Framatome, Inc. (Framatome) requested the U.S. Nuclear Regulatory Commission (NRC) staff's concurrence on a minor difference in GAIA fuel geometry range for critical heat flux (CHF) testing specified in Table 2-3, "Geometry for ORFEO-GAIA correlation," of Topical Report (TR) ANP-10341P-A, Revision 0, "The ORFEO-GAIA and ORFEO-NMGRID Critical Heat Flux Correlations" (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18284A039), and the GAIA fuel design in TR ANP-10342P-A, Revision 0, "GAIA Fuel Assembly Mechanical Design" (ADAMS Accession No ML19309D913). Framatome explained that a minor difference exists in the nominal tested distance to grid and between grids as specified in Table 2-3 of ANP-10341P-A, Revision 0, and the GAIA fuel design.

The approved ORFEO-GAIA CHF correlation in TR ANP-10341P-A, Revision 0, range of applicability for grid spacing and the distance-to-grid was based on nominal values of CHF test geometry are defined in Table 2-3 of the ANP-10341P-A, Revision 0. These values reported in the TR are grid spacing range and the distance-to-grid range. The GAIA TR ANP-10342P-A, Revision 0, "GAIA Fuel Assembly Mechanical Design" (ADAMS Package Accession No. ML19309D913), is specific to the GAIA fuel assembly design but does not include grid spacing dimension or distance to grid. Framatome, in submittal dated May 24, 2022, reports that the grid spacing dimensions have never been altered.

The reported discrepancy in grid dimensions has been justified in Framatome's submittal. The difference in distance-to-grid is within the CHF testing tolerance. Therefore, the design limit is within the tolerance. Also, the CHF assembly was subject to thermal expansion and contraction during the CHF testing and the grids were allowed to move axially within a tolerance.

The NRC staff reviewed Framatome's request for concurrence of the difference in the nominal distance to grid between grids and determined that the distance to grid is acceptable because

the value is within the tolerance. The NRC staff agrees that the minor difference in the nominal distance to grid between grids did not impact the conclusions of TR ANP-10341P-A, Revision 0, or the NRC staff's safety evaluation (SE) (ADAMS Accession No. ML18166A219). Finally, the NRC staff agreed that the minor difference did not necessitate discussions in a SE.

In the next revision to TR ANP-10341P-A, the NRC staff requests that Framatome include revisions to reflect the NRC staff's concurrence of the minor difference in GAIA fuel geometry range for CHF.

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

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