

REQUEST FOR ADDITIONAL INFORMATION-10638

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ANP-10357P, REVISION 0, "TXS COMPACT PLATFORM TOPICAL REPORT"

FRAMATOME INC.

DOCKET NO. 99902041

ISSUE DATE: 06/16/2025

Background

By letter dated August 2, 2024 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML24218A279), Framatome, Inc. submitted ANP-10357P, Revision 0, "TXS Compact Platform Topical Report," (TR) for U.S. Nuclear Regulatory Commission (NRC) staff's review and approval. The NRC staff has reviewed the proposed TR, conducted an audit (ADAMS Accession No. ML24352A156) and determined that additional information is needed to complete the review. The NRC staff's request for additional information (RAI)-10638 is provided below.

Regulatory Basis

The regulatory basis for this RAI can be found in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(h) which incorporates the requirements of Institute of Electrical and Electronic Engineers (IEEE) Standard (Std.) 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," and Regulatory Guide (RG) 1.152, "Criteria for Programmable Digital Devices in Safety-Related Systems of Nuclear Power Plants."

Question 1

The regulation at 10 CFR 50.55a(h) incorporates by reference the requirements of IEEE Std. 603-1991 and the correction sheet dated January 30, 1995. Clause 5.6.3, "Between Safety Systems and Other Systems," requires, in part, that, "The safety system design shall be such that credible failures in and consequential actions by other systems, as documented in Section 4.8 of the design basis, shall not prevent the safety systems from meeting the requirements of this standard". RG 1.152, Revision 4, and its endorsed IEEE Std. 7-4.3.2-2016, "IEEE Standard Criteria for Programmable Digital Devices in Safety Systems of Nuclear Power Generating Stations," provide regulatory guidance on how to meet the requirement on independence between safety systems and other non-safety systems.

In Section 5.2.2.2, "Communication from the Service Unit to an Automation Unit," of the TXS COMPACT TR, it states, in part, that "When the SYSTEM or OPE_PARAM release is activated on an Automation Unit, an optocoupler on the PM1 temporarily activates a communication line to enable maintenance of this Automation Unit." It also states in Section 5.2.2.2 that "this communication channel can be used to parameterize the unit by changing configuration data, such as the application, parameters, etc."

The NRC staff noted that the OPE_PARAM mode allows update of parameters while still in OPERATION mode. Although this feature can be permanently or temporarily inhibited when configuring the instrumentation & control system, the NRC staff requests that the applicant provides additional information to clarify or justify the use of non-safety-related Service Unit to parameterize the safety-related automation unit during operation if the above feature is not inhibited.

ADAMS Accession No.:
ML25160A168 (RAI – Non-Proprietary)

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