
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

10/7/2016

**SAFETY SYSTEM DIGITAL PLATFORM
- MELTAC (MITSUBISHI ELECTRIC TOTAL ADVANCED CONTROLLER) -
TOPICAL REPORT**

Mitsubishi Electric Corporation

TAC NO.: MF4228
RAI NO.: #1
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QUESTION NO.: 3 for JEXU-1041-1015, "MELTAC platform ISG-04 Conformance Analysis"

With regards to the response to Staff Position 4; this is the only place the communications processor is a "to be determined" processing technology. Discussion within this section and the topical report, such as section 4.3.3.5.1, "Detailed Data Flow," identifies this as a []. The NRC staff requires the technology of the communications processor to be determined and consistent with the design, process and procedures. If this processor is yet to be determined, or is being changed, the NRC staff needs to be notified of the changes.

ANSWER:

[

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Impact on Technical Report

Section 3.1.4 of JEXU-1041-1015, "MELTAC Platform ISG-04 Conformance Analysis" will be revised by adding explanation about technology applied for communication processor and deleting the ambiguous note (see Attachment-1).

3.1.4 Staff Position 4

Requirement
<p>The communication process itself should be carried out by a communications processorⁱⁱ separate from the processor that executes the safety function, so that communications errors and malfunctions will not interfere with the execution of the safety function. The communication and function processors should operate asynchronously, sharing information only by means of dual-ported memory or some other shared memory resource that is dedicated exclusively to this exchange of information. The function processor, the communications processor, and the shared memory, along with all supporting circuits and software, are all considered to be safety-related, and must be designed, qualified, fabricated, etc., in accordance with 10 C.F.R. Part 50, Appendix A and B. Access to the shared memory should be controlled in such a manner that the function processor has priority access to the shared memory to complete the safety function in a deterministic manner.</p> <p>For example, if the communication processor is accessing the shared memory at a time when the function processor needs to access it, the function processor should gain access within a timeframe that does not impact the loop cycle time assumed in the plant safety analyses. If the shared memory cannot support unrestricted simultaneous access by both processors, then the access controls should be configured such that the function processor always has precedence. The safety function circuits and program logic should ensure that the safety function will be performed within the timeframe established in the safety analysis, and will be completed successfully without data from the shared memory in the event that the function processor is unable to gain access to the shared memory.</p>
Analysis

ISG-04-3

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