



October 22, 2010  
NRC:10:097

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**Response to Fifth Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS™ Safety Systems Topical Report" (TAC No. MD3971)**

- Ref. 1: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), "Request for Review and Approval of ANP-10272, 'Software Program Manual for TELEPERM XS™ Safety Systems Topical Report'," NRC:06:061, December 21, 2006.
- Ref. 2: Letter, Getachew Tesfaye (NRC) to Ronnie L. Gardner (AREVA NP Inc.), Acceptance for Review of U.S. EPR ANP-10272, "Software Program Manual TELEPERM XS Safety Systems Topical Report," (TAC MD3971), March 22, 2007.
- Ref. 3: Letter, Getachew Tesfaye (NRC) to Ronnie L. Gardner (AREVA NP Inc.), Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971), April 27, 2007.
- Ref. 4: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Response to a Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971), NRC:07:020, May 22, 2007.
- Ref. 5: Letter, Getachew Tesfaye (NRC) to Ronnie L. Gardner (AREVA NP Inc.), Second Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971)," June 22, 2007.
- Ref. 6: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Response to Second Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971), NRC:07:029, July 19, 2007.
- Ref. 7: Letter, Getachew Tesfaye (NRC) to Ronnie L Gardner (AREVA NP Inc.), Third Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety systems Topical Report (TAC No. MD3971), August 31, 2007.
- Ref. 8: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Response to Third Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971), NRC:07:056, October 26, 2007.

**AREVA NP INC.**

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- Ref. 9: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Follow-up Actions from December 19, 2007, NRC Audit of ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," Program Implementation (TAC No. MD3971), NRC:08:008, January 24, 2008.
- Ref. 10: Letter, Getachew Tesfaye (NRC) to Ronnie L Gardner (AREVA NP Inc.), Fourth Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety systems Topical Report (TAC No. MD3971), May 7, 2008.
- Ref. 11: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Response to Fourth Request for Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report," (TAC No. MD3971), NRC: 08:034, May 29, 2008.
- Ref. 12: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Additional Information Regarding ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), NRC:09:014, February 18, 2009.
- Ref. 13: Letter, Getachew Tesfaye (NRC) to Ronnie L. Gardner (AREVA NP Inc.), Review Status of the ANP-1 0272P, "Software Program Manual For TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), March 9, 2009.
- Ref. 14: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), AREVA NP Response to Review Status of the ANP-10272, "Software Program Manual For TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), NRC:09:035, April 7, 2009.
- Ref. 15: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), AREVA NP Revision 1 of the ANP-10272, "Software Program Manual For TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), NRC:09:088, August 14, 2009.
- Ref. 16: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), AREVA NP Revision 2 of the ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), NRC:10:042, May 07, 2010.
- Ref. 17: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), Additional Information in Support of AREVA NP Revision 2 of the ANP40272, "Software Program Manual For TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971), NRC: 10:062, July 08, 2010.
- Ref. 18: Letter, Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC), AREVA NP Revision 2 of the ANP-10272, "Software Program Manual for TELEPERM XS Safety Systems Topical Report" (TAC No. MD3971)," NRC:10:078, September 1, 2010.
- Ref. 19: Letter, Getachew Tesfaye (NRC) to Ronnie L. Gardner (AREVA NP Inc.), "AREVA NP, INC. - Fifth Request For Additional Information Regarding ANP-10272, 'Software Program Manual for TELEPERM XS™ Safety Systems Topical Report,' September 13, 2010.

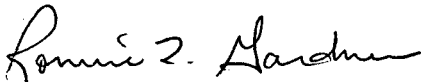
AREVA NP Inc. (AREVA NP) requested the NRC's review and approval of topical report ANP-10272 Revision 0, "Software Program Manual for TELEPERM XS™ Safety Systems Topical Report," in Reference 1. The review history for ANP-10272 is identified in References 2 through 18. A fifth request for additional information (RAI) was provided by the NRC in Reference 19. The response to this request is provided in an Attachment to this letter.

Revision 3 of the Software Program Manual Topical Report is included as an enclosure to this letter. ANP-10272, Revision 3, contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390. The top of each page of the document is marked 'Security-Related Information -Withhold Under 10 CFR 2.390 in accordance with Regulatory Information Summary 2005-31. A public version of ANP-10272, Revision 3, is also provided with the security-related sensitive information redacted.

AREVA NP requests that the NRC issue a Safety Evaluation Report that approves ANP-10272 Revision 3, "Software Program Manual for TELEPERM XS Safety Systems Topical Report." AREVA NP intends to use the TELEPERM XS Software Program Manual to support the development of TELEPERM XS Application Software for projects in the U.S., including the U. S. EPR. AREVA NP requests that the NRC complete its review of the enclosed report and issue the SER by December 2010.

If you have any questions related to this submittal, please contact Ms. Sandra M. Sloan, Regulatory Affairs Manager for New Plants Deployment. She may be reached by telephone at 434-832-2369 or by e-mail at [sandra.sloan@areva.com](mailto:sandra.sloan@areva.com).

Sincerely,



Ronnie L. Gardner, Manager  
Corporate Regulatory Affairs  
AREVA NP Inc.

Enclosures

cc: J. Rycyna  
G. Tesfaye  
Docket No. 52-020

AREVA NP RESPONSE TO FIFTH REQUEST FOR ADDITIONAL  
INFORMATION (RAI) ANP-10272, "SOFTWARE PROGRAM MANUAL FOR  
TELEPERM XS™ SAFETY SYSTEMS TOPICAL REPORT"

RAI 88.      Question

Appendix C (page C-33) described asynchronous execution of send/receive functions by the processing units IF NO EXPEDITED MESSAGES are sent via the serial bus links. The NRC staff requested via telecon on July 1, 2010, clarification as to the nature of these previously unidentified expedited messages. AREVA responded on July 8, 2010 (Accession No. ML101930134), identifying citations issued by Institut für Sicherheitstechnologie (Institute for Safety Technology known as ISTec) and Technischer Überwachungs-Verein (German Technical Monitoring Association known as TÜV) as part of the original TELEPERM system test certifications. The NRC staff requests this descriptive information be included within the body of the software program manual.

Concern

The "expedited messages" prioritization is a translational issue that cannot be directly inferred from the submitted material without explanation. Further, the subject backplane bus interrupt (IRE) trigger identified in the July 8, 2010, letter is of sufficient significance to warrant being identified to the SPM user, and being specifically addressed in the NRC staff's finding on safety.

AREVA NP Response

The requested information has been incorporated in Revision 3 of ANP-10272.

RAI 89.      Question

Several statements in the secure development/operational environment section (SDOE), Appendix C, Annex 1, related to data communications do not appear applicable to SDOE, and are currently contrary to the NRC staff position relative to the acceptability of the communications architecture for the Service Unit in addressing U.S. EPR safety related systems.

AREVA is requested to remove this information to facilitate the completion of the SPM topical report activity or, at their option, AREVA may postpone completion of the SPM review until the communications issues are resolved (including any applicable revisions).

Concern

The information contained in the third paragraph of Appendix C, Annex 1, Section 3.0 is in conflict with NRC staff's stated positions regarding the service unit and its continuous connection to safety systems. Until these issues have been resolved, the presence of this information within the SPM will generate a negative safety finding. Since the information is not germane to the SPM's function, the removal of this information will allow the NRC staff to complete its safety evaluation for the subject report.

Applicant Reference(s)

The following is a list of examples, though it is not exhaustive:

- 1      ANP-10272
- 2      Section C.4.2.2 last paragraph reference to Annex 1 Appendix C, Annex 1, Section 3.0

AREVA NP Response

The requested information has been deleted from Revision 3 of ANP-10272.

RAI 90.      Question

Regarding SPM Appendix D, "Change Control Process," the staff requests that AREVA evaluate the following to support final issuance of the SPM.

The NRC staff would like AREVA to understand that the interactions on this issue in support of the SPM, when taken in conjunction with similar topical report evaluations have influenced the NRC staff's perception of the described program's level of completeness and acceptability, as currently identified in this appendix.

The NRC staff requests that AREVA consider supporting additional development of the TR change control program (CCP) in order to expeditiously allow for approval of the Appendix D program for use with the TR.

With that in mind, the NRC staff would propose in order of preference that:

1. AREVA continue to work with NRC staff to develop the CCP for approval and use along with their platform TR, or
2. AREVA withdraw Change Appendix D from the TR to assure that the approval of the SPM is not unduly impacted through this adjunct appendix. The NRC staff recommends that, as the Appendix D CCP is directly related to the TELEPERM XS platform, it forms a sound basis for submittal as a separate topical report on the subject that will have value to AREVA. This approach is similar to that being presented and receiving favorable attention on other dockets.

If AREVA desires to continue along the path of Option 1 noted above, the NRC staff will continue review interactions on the appendix to achieve that end. The schedule, predictably, would be extended. Option 2 requires a commitment by AREVA to change the current SPM by removal of the appendix on publication. Any actions on a separate CCP topical report would proceed on its own timeline, without impacting completion of the review of the SPM.

AREVA NP Response

The information regarding the Change Control Process has been deleted from Revision 3 of ANP-10272. AREVA NP will submit a separate topical report that addresses the Change Control Process.