



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

AREVA
Software Program Manual
for
Teleperm™ XS Safety Systems
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Software Program Manual

NRC Current Status of Issues Related to the AREVA Software Program Manual (SPM) Topical Report

Summary Listing by Major Concerns:

- 1) Original SPACE Tool Approval
- 2) Scope of AREVA NP Software Development Procedures
- 3) Specific changes to SPM
- 4) Scope of the SPM
- 5) Conformance to Guidance
- 6) Exception to IEEE 1012
- 7) Exception to IEEE 828
- 8) Justification of SIVAT Quality
- 9) Other Issues

1. Original SPACE Tool Approval

- Not Safety Related
- Approved as part of overall life cycle process
- Acceptable V&V of application software was credited; not the capability of SPACE
- Description of SPACE in the SPM needs to be addressed

2. Scope of AREVA NP Software Development Procedures

- Clarify in the SPM, to what systems/processes the AREVA NP GmbH software development procedures (described in the Teleperm XS topical report) and software development procedures for the SPM apply.

3. Specific Changes to SPM

- The NRC staff has received numerous requests for additional information responses
 - Many responses modify the SPM
 - Some response may now conflict with earlier responses
- Due to the extent of changes, it is necessary for the NRC staff to have a revision of the SPM on the docket to facilitate further review of the topical report

4. Scope of the SPM

- What portions of the SPM are mandatory vs what portions are optional (RAI 66)
- Introduction section is confusing by identifying only five plans in the SPM while Table 1-1 correlates plans identified in Branch Technical Position 7-14

5. Conformance to NRC Guidance

- What does AREVA mean by conforms to guidance?
 - Is this the same as “100%” compliance?
 - Does this mean “meets every criteria?”
 - RAI 72 specifically asked: Yes or No
 - The SPM should clearly delineate full conformance to guidance and where alternatives are proposed (including basis for alternatives)

6. Exceptions to IEEE 1012

- V&V Organization should be (vs Technical manager and Quality Assurance Organization) responsible for software V&V (RAI 71)
 - V&V manager determines scope of V&V (vs. Technical Manager and Quality Assurance)
 - AREVA needs to adequately justify why they propose that component verification and validation testing is not mandatory

7. Exception to IEEE 828

- No Configuration Management Organization
 - The SPM should provide for a configuration management organization or provide information as to the reassignment of each configuration management task and the basis for why the reassignments are acceptable

8. Justification of SIVAT Quality

- SIVAT Lifecycle Documentation
 - Description of development process and verification and validation (V&V) applied to SIVAT development
 - Acceptable demonstration of software quality processes
- SIVAT Specification
 - Description of how SIVAT works; how it credited in the overall application software development process

8. Justification of SIVAT Quality (cont.)

- Configuration management of SIVAT
 - Description of SIVAT development and configuration control
 - Version information for baseline
- Other software tools such as **cmp_code** and **rediff**
 - Identify if credited in software development process
 - If credited, similar demonstration of quality as needed for SIVAT

9. Other Issues

- Preparation of Test Plan – specify V&V group responsibility
- Clarification of who can close open items
- Quality Assurance Manager manages the Software Quality Assurance Plan (RAI 76)
- Software Integration Plan (RAI 41)

Path Forward

- NRC to provide a status letter outlining current SPM issues
- AREVA NP to provide a revision of the SPM on the docket encompassing proposed changes and addressing current issues
- AREVA NP to provide justification of SIVAT quality based on schedule preference