

As of: 9/4/15 5:29 PM Received: August 25, 2015 Status: Pending_Post Tracking No. 1jz-8kra-yqeg Comments Due: August 31, 2015 Submission Type: Web

PUBLIC SUBMISSION

Docket: NRC-2015-0153
 Design and Analysis Computer Commercial-Grade Dedication Requirements

Comment On: NRC-2015-0153-0001
 Acceptance of Commercial-Grade Design and Analysis Computer Programs for Nuclear Power Plants; Draft Regulatory Guide; Request for Comment

Document: NRC-2015-0153-DRAFT-0004
 Comment on FR Doc # 2015-16131

Submitter Information

Name: Robert Martin
Address:
 109 Ramsey Place
 Lynchburg, VA, 24501
Email: rpmartin@bwxt.com

7/1/2015
80 FR 37666
(3)

RECEIVED

2015 SEP -4 PM 5:30

RULES AND DIRECTIVES
 BRANCH
 USNRC

General Comment

10 CFR 50 Appendix B Section V states, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." In addition, ASME NQA-1 Subpart 2.7, Quality Assurance Requirements for Computer Software for Nuclear Facility Applications, endorsed in Section 17.5 of NUREG-0800, identifies among the attributes of the software dedication process "instructions for use (for example, the user manual) within the limits of the dedicated capabilities". Such statements imply that software is not complete until the parametric definition subject to user discretion has been appropriately vetted (i.e., verified and validated).

EPRI 1025243 provides limited treatment on this aspect of the dedication process. For example, in Table 5-1, a conceptual error is a failure mechanism "resulting when the computer program is applied outside its intended use." In Table 6-5, critical input parameters and valid ranges are identified as an "interface", appearing to be something outside the scope of dedication. In Section 6.5, there appears to be an expectation that user guides would be provided to customers for their review. In these examples, EPRI 1025243 fails to provide definitive expectation or instruction to this software dedication attribute, one explicitly identified in 10 CFR 50 Appendix B and NQA-1. Notably, a software user should expect that during the dedication process such documentation may

S. Poulton (5x63)
ADM-03
Supervisor (451)
ADM-013
Temp file = ADM-013
SWSI Reviewer Complete

need to be prepared to prevent incomplete or improper software input.

It is recommended that DG-1305 1) acknowledge the applicability of the 10 CFR 50 Appendix B Section V to software dedication and 2) clarify that for computer codes allowing application outside of hardcoded limits, user instructions explicitly describing limits of use are expected. Such limits of use should, in part, be based on the scope of testing prepared in the development and/or dedication process. It would also be useful if DG-1305 provided explicit definition of the expectations for and characteristics of user instructions in the software dedication process.

As reference, RG 1.203, "Transient and Accident Analysis Methods," notes in several locations (in particular, see Section 3.4) that user instructions and guidelines are essential in minimizing the risk of inappropriate use safety-related software.