

From: Yawar Faraz
To: Miner, Pete
Date: 10/4/05 4:16PM
Subject: Latest draft of FCSS-ISG-10, "Justification for Minimum Margin of Subcriticality"

Pete,

The NRC would like to draw USEC Inc.'s attention to some of the more significant changes that have been incorporated in the revised draft. First, the ISG has been rewritten to clarify that it is mainly guidance to the technical reviewer, rather than to the licensee/applicant. Second, the order of the various technical topics has been rearranged into a more logical format. For example, modeling conservatism is discussed first because the NRC views this consideration to be of primary importance. Validation-related topics have been grouped together and the discussion of validation has been more tightly focused on those aspects that have the greatest impact on the margin of subcriticality. In addition, the discussion of sensitivity has been revised to also factor in uncertainty in the system parameters as well as sensitivity of k-effective to those parameters. The terminology used in the ISG has also been significantly revised. Terms and equations from the ANSI/ANS-8 Series standards (in particular, ANSI/ANS-8.1 and -8.17) have been used wherever practical, and a clear distinction has been drawn between the margin of safety, margin of subcriticality, and minimum margin of subcriticality. Another major change is that the reference to a margin of 0.1 for high-enriched uranium systems has been removed. The new version contains reference to a margin of 0.05, but makes it clear that this is not prescriptive and that a larger or smaller margin may be appropriate for different processes.

You will note that the new version is longer than the previous version; this is due to the inclusion of additional examples and a desire to clarify the text and address as many of the comments received as practical. However, the technical position articulated in the previous version, and clarified in the May 20, 2005, workshop, has not changed.

Yawar

CC: Brian Smith; Christopher Tripp; Linda Marshall

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From: Yawar Faraz
Created By: YHF@nrc.gov

Recipients

nrc.gov

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BWS1 CC (Brian Smith)

CST CC (Christopher Tripp)

LXG3 CC (Linda Marshall)

usec.com

MinerP (Miner, Pete)

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