

**From:** Benson, Michael  
**To:** Csontos, Aladar; Stevens, Gary; Kirk, Mark  
**Subject:** RE: RG 1.161 "Analysis of Existing JR Correlations for Regulatory Guide 1.161 Update"  
**Date:** Monday, June 04, 2012 7:09:00 AM

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Al, Gary, and Mark,

Here are suggested responses to RGDB's questions on RG 1.161:

- (1) The  $J_R$  correlations referenced in the RG are not valid beyond approximately  $1 \times 10^{19}$  n/cm<sup>2</sup>.
- (2) If a licensee cannot meet the Upper Shelf Energy requirements of 10 CFR 50, Appendix G and the licensee's vessel has been exposed to neutron irradiation beyond a fluence of  $1 \times 10^{19}$  n/cm<sup>2</sup>, then it will have to devise its own method for estimating  $J_R$ . The NRC will then have to review and approve this method. The general elastic-plastic fracture mechanics analysis method discussed in the RG is valid; only the  $J_R$  correlations are in question under certain conditions.
- (3) Updating the correlations first requires a literature review to determine whether relevant data exists to improve the current correlations. Then, an effort must be undertaken to analyze the new data with statistical methods. 2 FTE and approximately \$200k for contractor work is needed. If no data exists in the open literature, then a testing program would be required to update the correlations. A testing program would be a much more costly effort.

Let me know if you have comments.

Thanks,

Mike

**From:** Karagiannis, Harriet  
**Sent:** Thursday, May 31, 2012 3:58 PM  
**To:** Benson, Michael  
**Cc:** Csontos, Aladar; Boyce, Tom (RES); Bayssie, Mekonen; McGrady-Finneran, Patricia  
**Subject:** RG 1.161 "Analysis of Existing JR Correlations for Regulatory Guide 1.161 Update"

Mike,

In a meeting with M. Case on 4/30/12 on RG update we discussed the status of RG 1.161, "Analysis of Existing  $J_R$  Correlations for Regulatory Guide 1.161." It was agreed at the meeting that this guide should be moved more likely to the "acceptable-as-is" (AAI) category in the RG sharepoint tracking system since the proposed contract with the Center for Technical Basis Development for RG 1.161 was not approved by RES management and the guide will remain as is for at least the next 2-3 years or longer.

For RGs that are in the same status as RG 1.161 and licenses continue to use the guides or sections of them we identify them by using the term AAI. In the RG tracking system the AAI guides show as completed in the final count of the guides. This means that the

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Technical Lead responsible for the guide has done an evaluation of the RG and determined that the use of the guide will not result in licensee health and safety issues although there may be some technical findings that should be noted and used in the next revision of the guide.

We ask the Technical Lead for each such guide (yourself in the case of RG 1.161) to answer the 3 questions listed below in order to identify these issues. Please see example of responses to these questions by other TL with similar situation. This information will be included in the sharepoint RG tracking system as well as in ADAMS for future revision of this guide.

At the meeting Mike also mentioned that he will be following up with AI on the responses to these questions.

- (1) **What are the known technical or regulatory issues with the current version of the RG?**
- (2) **What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of licensing and inspection activities?**
- (3) **What is an estimate of the level of effort needed to address identified issues in terms of FTE and contract dollars?**

**Example:**

**Question 1. What are the known technical or regulatory issues with the current version of the RG? (if any)**

Response: Note that because of the Agreement State Program NRC does not anticipate licensing near surface disposal facilities in the next five years. FSME, at the direction of the Commission, is conducting a rulemaking on Part 61 and will, in the next two to three years, determine if the guidance will need to be updated as a consequence of the rulemaking.

**Question 2. What is the potential impact on internal and external stakeholders in terms of licensing and inspection?**

Response: None whatsoever. Because of the Agreement State Program NRC does not anticipate licensing near surface disposal facilities in the next five years.

**Question 3. An estimate of the level of effort needed to address identified issues in terms of FTE and contract dollars?**

Response: Revision is not recommended at this time. However, should revision be undertaken the resource estimate for technical support for each regulatory guide is \$125K and it would require 0.2 FTE for each guide.

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