

**From:** Benson, Michael  
**To:** Stevens, Gary; Kirk, Mark  
**Subject:** RE: Draft J-R data scumming letter  
**Date:** Tuesday, April 17, 2012 10:48:00 AM

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I'm not sure that "it is important to verify that the existing equations predict trends accurately." Maybe if the equations were actually used...

**From:** Stevens, Gary  
**Sent:** Tuesday, April 17, 2012 10:44 AM  
**To:** Kirk, Mark; Benson, Michael  
**Subject:** RE: Draft J-R data scumming letter

Comments below in RED and ~~strikeout~~.

Gary L. Stevens  
Senior Materials Engineer  
NRC/RES/DE/CIB  
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 301-251-7569

**From:** Kirk, Mark  
**Sent:** Tuesday, April 17, 2012 10:09 AM  
**To:** Benson, Michael; Stevens, Gary  
**Subject:** Draft J-R data scumming letter

Mike / Gary –

Below is my draft. Please edit so we can send around. Any edits / comments gleefully accepted ... and I do need help in specific with the highlighted bit

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Dear Colleagues –

As you may be aware, the NRC is considering an update to Regulatory Guide (RG) 1.161, "Evaluation of Reactor Pressure Vessels with Charpy Upper Shelf Energy Less Than 50 ft-lb," June 1995. This ~~document~~ RG is attached for your reference ~~... it has not been updated since it was first issued in 1995.~~

~~You are probably also aware that m~~Much of RG 1.161 is mirrored in the ASME Code, Section G-XI, Nonmandatory Appendix K. One aspect of the RG that is not reflected in the ASME Code approach are the equations that are used to estimate J-R curves from Charpy V-notch energy data. Our review of the information on which these equations were based reveals that there is limited information at high fluence (~~MIKE – can you say something more specific here~~i.e., above  $3 \times 10^{19}$  n/cm<sup>2</sup>, E > 1 MeV). As ~~plants go~~ licensees begin to consider applying for a second license extension, ~~we~~ the NRC feels it ~~therefore~~ is important to ~~check~~ verify that the existing equations predict trends accurately at high fluence levels and, if needed, to update the equations ~~so that they do~~ accordingly.

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The purpose of this e-mail is to request your assistance in identifying and/or providing any data (J-R curve data, paired with Charpy data, for RPV steels & welds both before and after irradiation exposure) that ~~would be helpful to~~ should be considered in this effort. If you have any data that you think is pertinent, ~~and can provide,~~ I would appreciate a ~~return e-mail~~ response identifying such data so that we can ~~discuss what is needed in more detail~~ consider it further in our efforts associated with RG 1.161.

Thanks in advance for any assistance you can provide.