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Cool, Donald

From: Patricia Milligan -NSIR
Sent: Tuesday, January 29, 2008 1:22 PM
To: Dennis Damon; Matthew Bartlett; Timothy McCartin; Cyndi Jones; Farouk Eltawila; Donald Cool; Jean-Claude Dehmel; Vincent Holahan; Patricia Holahan; Jocelyn Mitchell; Sami Sherbini; Roger Pedersen
Cc: Sher Bahadur; William Dean; Michael Johnson; Melvyn Leach; Randy Sullivan; Jimi Yerokun
Subject: Re: SOARCA SECY PAPER
Attachments: Patricia Milligan.vcf

NSIR

Farouk

Thanks for the opportunity to review the revised paper. While overall, I think it does a decent enough job capturing the thoughts from the meetings a few weeks ago, I do have some concerns with the paper-

1. The paper continues to discuss "comparison", "direct comparison" with previous offsite consequence analyses in both the pro and con options. As we have discussed, everything about SOARCA is different than the 1982 siting study and the 1982 study relied on BEIR III which used a linear quadratic model rather than the linear no threshold model adopted by BEIR V and reaffirmed by BEIR VII. It is not accurate to suggest that there can be "direct" comparisons between SOARCA and the 1982 study. This should be clearly stated for the Commission (the paper talks around this now, but could be stronger and more clear) and removed from the list of pros and cons. To leave it in suggests that the staff doesn't understand the differences between SOARCA and the 1982 study or the differences in the models used.

2. Page 1 of the attachment "Assessment of Latent Health Effects Attributable to Ionizing Radiation and Public Communication of Offsite Consequences" suggest, for completeness, adding "Cancer risk estimates in these studies are generally compatible with, although in some studies they are somewhat higher than; those derived from the Japanese atomic bomb data and in some studies, were somewhat lower". That is in fact a true statement and addresses the great uncertainty associated with very low dose exposures.

3. Page 2 of the attachment... suggest "While the possibility of LCF from very low doses cannot be ruled out, it is considered by some many organizations (e.g., ICRP, National Council on Radiation Protection and Measurements, Health Physics Society) to be an inappropriate use of these exposures." (Those are the biggies in the world of radiation....)

4. Page 3 of the attachment... Are there staff concerns about estimating LCF?
As discussed above, the LNT model provides a viewpoint that is consistent with the regulatory approach of the agency. This model is used by the agency to calculate LCF for regulatory purposes. That is to say, MACCS2 has used and continues to use the LNT dose response model to calculate LCF. If there is a desire to compare SOARCA analyses with past results, continued use of the LNT model without any dose truncation is necessary. Regarding comparison with previous studies, the benefit gained by performing calculations using the LNT model without dose truncation, which would allow comparison on the same methodological basis,? If we are using the same methodological basis, what is the difference and why are we doing SOARCA??

5. Page 5- Although the 5 rem per year value was based on the Health Physics Society position paper, several experts described this alternative as scientifically indefensible. Suggest rewording this "several experts described this alternative as potentially more challenging to communicate" or something like this. This is not a difficult concept to defend scientifically; I have no trouble defending this scientifically (and can do so using words from the BEIR VII report) and I don't think that the Health Physics Society has trouble defending this or they wouldn't have published it as a Society position paper. The NRC Fact sheet on the Biological Effects of Radiation does a good job explaining this position. (<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/bio-effects-radiation.html>) Suggesting this is scientifically indefensible questions the credibility and the integrity of the scientists who drafted this paper and the entire Health Physics Society organization and I am sure that is not the intent.

Please feel free to call me if you have questions regarding my comments.

Trish Milligan

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preparedness is a process, not an endpoint

>>> Farouk Eltawila 01/28/2008 2:57 PM >>>

All:

As you might be aware, Vince Holahan is in Vienna this week. In his absence, I appreciate your review of this paper and provide your comments to Jimi, Vince, Sher, and I. As you can see, it takes 3 people to fill Vince's shoes. Except for some changes that will be articulated later in this e-mail, this version reflects the excellent inputs we received from you. I thank you for your support and look forward to getting this version of the paper concurred on by your Office. The EDO wants the paper no later than 2/2/12/08, so we have a very short time to get all the concurrences; hopefully with minimal comments.

The paper now is a notation paper, and we moved many of the background information into the enclosure. The pros and Cons of the different options, provided by you, have not been changed. Some of the information, suggested by Mike Johnson and I are inserted to provide a summary of the SOARCA results, so as to put the dose truncation criteria in proper perspectives. The staff recommended option is using the mean probability of an average person dying from cancer conditioned on the occurrence of severe reactor accident. We are asking the Commission to approve the staff recommendation to use this option to calculate the SOARCA consequences. We are also asking the Commission to approve the staff plan to peer review the whole SOARCA methodology, assumptions and results.

To meet the deadline stated above, I would like to get any high level comments by COB tomorrow, 1/29/08. Please do not be concerned with tech editing, the document is currently being tech edited.

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