From: John Hannon / NRR
To: Bagchi, Goutam
Date: Wed, Aug 16, 2000 11:20 AM
Subject: Re: Spent Fuel Pool Decommissioning: Seismic Screening

Goutam, thanks for the opportunity to comment on the white paper. I have reviewed the rewrite and marked up with editorial comments and sent back in hard copy for your consideration. Answers to the following questions would greatly aid my comprehension of what you are trying to do with this rewrite:

1st paragraph. Is "frequencies of exceedance" the same thing as "return frequencies"? I would understand better if the latter term were used.

3rd paragraph. I am still confused by this paragraph and do not find that it has addressed my original point: Which of the two studies (LLNL & EPRI) most closely models the expected ground motion? It appears that this paragraph is discussing two different comparisons (thus my confusion): (a) comparing the two seismic hazard estimates, and (b) comparing point estimates of seismic risk with other initiators. It seems to me that the problem could be greatly simplified if you did not have to compare the LLNL and EPRI estimates; just pick one and go with it as best estimate for risk analysis purposes.

Key assumption 2. I don't believe we should be using upper bound in risk analysis - we should be using best estimates. If EPRI is equally valid then why not use it for our risk analysis if it more closely represents expected ground motion from the earthquakes of interest. What do we lose if we don't use the LLNL data? Am I missing something fundamental here?

Source of Conservatism 2. Use of EPRI hazard estimate will eliminate this source of conservatism and appears to be justified on the basis of obtaining best estimate for risk analysis purposes.

Proposed approach. Can't be the "same" result if one yields 4 sites and the other yields 5.

>>> Goutam Bagchi 08/15 8:11 AM >>>
John,
I have attempted to answer your questions immediately below the statements in your email.

Thank you,
Goutam
301-415-3305

Thank you,
Goutam
301-415-3305

>>> John Hannon 08/11 3:52 PM >>>
I just read the white paper from a layperson's perspective to see if I could understand what was being said, and I offer the folowing comments for your consideration:

1. It isn't immediately obvious to my why we would want to argue that the two different estimates are "equally valid" or "equally credible". If ground motion modeling is the major source of uncertainty, then which of the two estimates provides the best model of ground motion (the one we think is more realistic and represents more closely what would really happen)? Isn't that the one we should be using in a risk informed approach?

We can add some text to explain why both estimates are equally valid. I do not believe that we can use the EPRI results alone.

2. I don't understand key assumptions 1 and 3 the way they are currently written. If they are key to understanding our analysis, we need to state them more clearly so they can be understood by our

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stakeholders.

Have you seen the rewrite? Does the rewrite take care of your problem? I am attaching the file here.

3. Same comment as above for Source of Conservatism # 2.

Please see the rewrite.

4. I am concluding (perhaps incorrectly) that the checklist is important to establish HCLPF, but that our risk analysts can now use 1 E -6 return frequency for seismic, and it does not need to be considered the dominant risk contributor except at a few plants.

For the risk analysts, the seismic failure probability is in the range of 4.5 and 1E-6. We should simply state that the seismic risk is low and then make the risk informed decisions on EP and indemnity without using a fixed absolute value.

>>> Nilesh Chokshi 08/11 1:34 PM >>>
Goutam/George,

I am attaching a file with my comments (strikeout and redline) on Goutam's draft . In few places I have embedded questions we need to discuss. I think we will need one more iteration. I would like to have Bob Kennedy look at it also before we finalize it. We are working on Bob's contract so that he can review this and attend August 23rd meeting. It would be very useful if we can include figures and data to enhance our discussion on uncertainties.

Nilesh