HLWYM HEmails

From: David Pickett
Sent: Friday, June 07, 2002 5:54 PM
To: John Bradbury; Paul Bertetti; David Brooks; Tae Ahn; William Ford; WLD@nrc.gov
Subject: RE: Colloid Telecon Postmortem

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Paul makes good points that I wouldn't dispute. The "fact sheet" looks pretty good to me, and their interpretations of the issues that need to be addressed are correct.

ENFE.3.05 is the most comprehensive of the three agreements, because it mentions reversible/irreversible and because of the phrase "for different waste forms." The latter phrase addresses the question of "irreversible" colloids from SNF. I do think they can address all three agreements with one product, as long as their analyses consider both release and transport. I think this is their intent. But I thought I heard them asking if they could _close_ ENFE.4.05 and RT.1.03 now. I don't think this would be appropriate.

Yes, Paul, it may be a little difficult for them to screen out radionuclides without sensitivity analyses using the updated models. But maybe they intend to do simple calculations that could answer the question. And maybe the "updated" models are really just adjustments in radionuclides and waste forms affected, and parameters. Savougian did say (if I heard him right) that they aren't going to make any fundamental structural changes in the TSPA abstractions.

The fact sheet doesn't say much about literature experimental data, but I did make the point during the telecon that they need to look at that.

To me, the most significant point they made was the move to irreversibility of sorption onto colloids. As I tried to point out during the meeting, one cannot assume that this is more bounding than allowing equilibrium sorption.

> reversible sorption to colloid , radionuclides other than Pu, Am, Th,
> and Pa will be considered (including U and Np) for incorporation into
> the reversible sorption to colloids model.
> What evidence exists to address this consideration?

John, if you mean "what is the basis for raising this issue?," I would answer that (i) the radionuclides included are not necessarily all of those that are highly sorptive and may be affected, and (ii) it is possible that reversible attachment can affect less sorptive radionuclides. For instance, there is natural analogue information showing colloids transporting a majority of uranium. Granted, that was in a reducing environment. I do believe they can rule out including U and Np by showing that the mass on colloids is minor compared to dissolved, but they haven't shown that yet.

John and Bill: thanks for setting this up. It was useful to once again have direct technical discussions on colloids.

David

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