HLWYM PEmails

From: Guttmann, Jack
Sent: Wednesday, October 12, 2005 12:44 PM
To: Fetter, Allen; Hill, Brittain; John Trapp; Rubenstone, James; Kokajko, Lawrence
Cc: Richard Savio
Subject: ACTION: Meeting

Today I met with Dick Savio regarding the meeting on the 21st.

Dick indicated that Ruth wanted to meet with us in parallel, same time that we meet with Hinze.

Larkins wants only one ACNW member to meet with staff for information gathering to their questions.

I told Dick that we do not have resources to hold parallel meetings. Some of Ruth's questions can only be responded to by the same people meeting with Hinze.

For the present we will assume the following schedule:

Note that the questions from Ruth's letter of August 4, 2005.

Dick will try to obtain additional clarification from the members of their specific questions.

8:00 - 9:30: ACNW members meet by themselves.

9:30 - 11:30: Meeting with Ruth on the following questions:

1. Given Bruce Marsh's exposition of magma quenching even on spent fuel fragments, how are 100-micron particles obtained that can be incorporated into tephra?

2. The Jarzemba and La Plante report gives a very thorough discussion of the particle size distribution and particle behavior for particles of minimum aerodynamic diameter 100 microns and maximum diameter 1 cm. How does one get 10-micron particles (usual upper limit of respirability) if the minimum size considered is 100 microns?

3. If the particles are formed by abrasion during long-term resuspension, is this consistent with the Anspaugh long-term resuspension model?

4. Overall, how do you get, step by step, from the modeled ash particles to inhalation and ingestion doses to the critical groups?

5. At the September, 2004 ACNW Working Group meeting Sr. Harper of Sandia reported on studies of reaction of aerosols... - - Section 1.03 The Center has... not incorporated this finding of Dr. Harper's in their consequence assessment.

6. ... the Center should be able to apply a wind rose and calculate the centerline air concentrations and deposition readily with greater realism. - - The remobilization model is similar to an Anspaugh remobilization mode. However, the effect of immediate dispersion and resuspension is neglected, in favor of remobilization, without adequate justification.

7. What resuspension model is the CNWRA using in calculating dose? - - The remobilization model is similar to an Anspaugh remobilization mode. However, the effect of immediate dispersion and resuspension is neglected, in favor of remobilization, without adequate justification.

8. What evidence is being used to estimate the size distribution of the waste incorporated into the tephra? - - The effect of vitrified high level waste is not considered. The size distribution estimate depends on the waste package being completely destroyed.

9. What studies are underway to reduce the uncertainties concerning the respirable fraction of waste-contaminated ash? - - The Center continues to gather information to reduce uncertainty, and tend toward realism, but documentation was inadequate.

10. What particle size distribution (in the respirable range of 0.01 to 10 micron) are derived from the analysis? - - The Center estimates that the range of particles up to 100 microns.

11. What are the specific parameters that the CNWRA scientists are using in the inhalation and exposure scenario for the receptor? Why are particles up to 100 microns assumed to be respirable? - - Contribute to the TEDE. The contribution to dose depends on particle size, and considers a distribution of DCFs with a maximum for 3 micron particles. Assumptions are not adequately justified...

12. What consideration have you given to using a less deterministic approach to the fate and transport modeling? - - The source term and some other model parameters are still being approached deterministically.

13. What changes... have you contemplated to your atmospheric dispersion model... to make the current models more risk-informed? - - The source term and some other model parameters are still being approached deterministically.

14. PA - What insights are currently available as to how these model changes will alter perceptions of repository performance? - - Model changes are being made are pred-decisional. This is the only reason these responses are not considered to be satisfactory.

11:30 - 4:00 (with working lunch) Meeting with Hinze on the following questions:

(Pg. 22 on attachment)

1. ... list the key physical and chemical processes hierarchically in terns of their impact on risk... - - Inconsistencies in risk ranking need to be explained and minimized (refer to page 13).

2. What investigations have been conducted by the Center's contractors and consultants on igneous activity... - - Excessively conservative assumptions are made about magma-waste package and magma-waste interactions.

3. The NRC is not taking performance credit for the waste container ..What is the basis for this decision? - - Assumption that the destroyed waste package and waste are completely entrained and emitted.

4. What is the progress of studies underway to estimate the effect of eruptions from a bocca... - - Work is incomplete (and pre-decisional). This process could have serous impact.

5. How are [new tectonic models] being evaluated and used in determining the probability of future volcanism... - - New tectonic data is becoming available that the Venter needs to consider.

6. How is the Center using volcanic clustering in probability analyses? - - Concerns remain regarding the use of the 10-7/yr value as a single point value for the volcanic event probability at Yucca Mountain by the NRC.

7. How is the Center using the spacial and temporal clustering of volcanic events in estimating the probability of an igneous intrusion into the proposed repository? - - Concerns remain regarding the use of the 10-7/yr value as a single point value for the volcanic event probability at Yucca Mountain by the NRC.

8. The NRC has stated that their current estimate of the probability of an igneous intrusion into the proposed Yucca Mountain repository is 10-7/yr... - - Concerns remain regarding the use of the 10-7/yr value as a single point value for the volcanic event probability at Yucca Mountain by the NRC.

9. PA - What information is available at this time as to the capability .. of the TPA code to model repository performance... for periods substantially longer than 10,000 years?

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