HLWYM HEmails

From: James Rubenstone
Sent: Wednesday, October 03, 2007 12:22 PM
To: Debashis Basu; Nancy Adams; Roland Benke; Donald Hooper; Brittain Hill; John Trapp; James Rubenstone; Keith Compton
Subject: Planning call with for November 1 Appendix 7
Attachments: Discussion Questions 11-1 Appendix 7.doc

Item Type: Appointment
Start Date: Thursday, 4 Oct 2007, 02:00:00pm (Eastern Daylight Time)
Duration: 1 Hour
Place: EBB-2-B35

Planning call with for November 1 Appendix 7 Thursday, 10/4, 2:00-3:00 pm EDT.

Purpose: Define topics for November 1 Appendix 7

Outcome: DOE understands our questions and will have the proper staff present on November 1

Process: Questions sent to DOE earlier this week are attached. We expect that the bulk of the meeting will focus on DOE's FAR model for tephra redistribution, but other IA consequence topics can be considered. DOE has indicated that no new AMRs beyond what we have now will be public before the meeting. We can ask during the call where they expect new informatiion or changes in approach in the upcoming documents.

DOE Bridge line is (702) 295-3007, no passcode required.

Hearing Identifier: HLW_YuccaMountain_Hold_EX
Email Number: 1121

Mail Envelope Properties (s70389c4.031)

Subject: Planning call with for November 1 Appendix 7
Sent Date: 10/3/2007 12:21:31 PM
Received Date: 10/3/2007 12:24:16 PM
From: James Rubenstone

Created By: James.Rubenstone@nrc.gov

Recipients:
"Debashis Basu" <dbasu@cnwra.swri.edu>
Tracking Status: None
"Nancy Adams" <nadams@cnwra.swri.edu>
Tracking Status: None
"Roland Benke" <rbenke@cnwra.swri.edu>
Tracking Status: None
"Donald Hooper" <dhooper@cnwra.swri.edu>
Tracking Status: None
"Brittain Hill" <Brittain.Hill@nrc.gov>
Tracking Status: None
"John Trapp" <JST@nrc.gov>
Tracking Status: None
"James Rubenstone" <James.Rubenstone@nrc.gov>
Tracking Status: None
"Keith Compton" <Keith.Compton@nrc.gov>
Tracking Status: None

Post Office: NRNWMS05.NRC.GOV

Files	**Size**	**Date & Time**
MESSAGE	845	10/3/2007 12:24:16 PM
Discussion Questions 11-1 Appendix 7.doc	26688	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Discussion Questions for Appendix 7 Meeting 11/1/07
Tephra Redistribution and related IA topics

Discussion Questions on the FAR Model

- The approach appears to assume that the pre-eruptive equilibrium between water flow, sediment yield, erosion/deposition, and channel hydraulic geometry can be used to simulate the post-eruptive characteristics of the watershed. Has this assumption been discussed, or could you discuss the validity of this assumption?

- Is the vertical scour mixing model approach a standard, well-recognized approach for sediment dilution, or is this a new technique? If it is a new technique, what validation/confidence-building exercises have been carried out (apart from those documented in the article)? How do the results from a vertical scour mixing model approach compare with those generated from a classic dilution mixing model approach?

- The critical slope angle approach appears to imply that tephra deposited on slopes less than the critical angle will never be mobilized by water, only (presumably) by wind. Is this a correct understanding? Is this consistent with other analogs (e.g., Lathrop Wells, Sunset Crater, Paricutin, Cerro Negro, other)?

- What is the relationship between the “equilibrium” dilution factor and a potential time-dependent factor? Is the tephra concentration at the outlet assumed to persist indefinitely? Does the time-independent assumption effectively average the tephra discharge concentration over some time period? Does the model assume that there is a constant supply of uncontaminated channel sediment available to dilute tephra? What is the source of the channel sediment as the tephra moves through the system?

- Does this model, or some other part of the approach for tephra redistribution, consider aeolian redistribution?

- Where were the measurements taken to define scour depth from the 1995 flood?

- Is the current day Fortymile Wash drainage system sediment starved? Are potential increases in sediment yield due to the presence of tephra considered?

- From the model, what is the total volume of sediment in channels (i.e., integrated scour depth)?

- Is there a relationship between scour depth and residence time of tephra in the system?

- Over what biosphere depth is radionuclide concentration averaged? How do these depth-averaged concentrations compare to surface concentrations of radionuclides for airborne resuspension?

Discussion Questions on related IA topics

- What determines the number of waste packages involved in an eruptive event? What is the technical basis for the expected distribution of conduit diameter?

- What distributions are used for the height of eruptive plumes in ASHPLUME? How is this distribution determined?