HLWYM HEmails

From: Hans Arlt
Sent: Thursday, February 19, 2004 1:35 PM
To: Paul Bertetti
Cc: John Stamatkos; James Winterle; Nathan Franklin; John Bradbury; Latif Hamdan; Philip Justus
Subject: RE: Fwd: Review of USFIC 4.06, SDS 3.02, RT 3.06

Paul:
Thanks for your in-depth and helpful response.
Hans

>>> Paul Bertetti <pbertetti@cnwra.swri.edu> 02/18/04 06:23PM >>>
Hans et al.

In the case of RT.3.06 (and SDS.3.02) I believe, based on the original agreement language and the context of the RAIs, the content of the DOE response is sufficient to allow closure even without publicly available referenced documents. All of the information to provide closure is contained within the TBD.

Phil's points regarding the uncertainties brought forward by DOE are right on the money. I am of the opinion that the Alcove 8-Niche 3 testing will not meet DOE's original goals and (as DOE states) will not add much to the licensing case. I also very much agree that the DOE model (and subsequent updates) is not 'fracture informed' nor does it include more recent fracture data.

However, the agreement quite explicitly asks for pre-test predictions of the seepage and transport tests -and- DOE explicitly states that the results won't be used to directly support licensing. So, I am forced to conclude that the pre-test prediction (and probably, the test results) will not be significant in terms of risk for the DOE safety case.

We didn't ask for 'good' pre-test predictions (albeit a reasonable expectation of a quality effort is implicit in any NRC request). I would also note that we didn't ask for test results that would be used by DOE, only the test results (see RT.3.05 and RT.3.10).

My feeling is that telling DOE won't have much effect at this stage, but perhaps a note in the cover letter, as Phil suggests, will provide DOE with a 'heads-up' that the technical bases for UZ process and fractures must be supported in some way if not by the Alcove 8-Niche 3 testing.
In the end, we'll have to define/defend the risk importance of not having a useful test (as Phil mentions). My question would be: If the test had never been planned or conducted, would that be okay? I suspect the answer is yes. That answer is somewhat independent of the disappointment stemming from the missed opportunity and unrealized potential of the test. Hopefully, DOE's response to the comments made in the RAI letter, and DOE's use of information from other testing, will answer some of the uncertainties Phil raised.

So, to finally answer Hans's questions: I think Phil's points are quite valid from a technical perspective. I think we need a better way to define their potential risk importance (especially in the context of DOE licensing case). I think advising DOE via the cover letter is okay from a 'heads-up' perspective, but it will do little to influence events in the near future. And I think that trying to deal with them in the context of this agreement is mostly a lost cause.

Finally, I would welcome additional input on these (i.e., fracture
informed) issues for inclusion and integration into other RT responses (coming up) for porous and fractured rock. I think I (as RT lead at
CNWRA) have been deficient in explicitly including these concerns. I'm not looking to keep agreements open per se, but I am very interested in establishing a fracture-informed context for IIRSR comments and review of the LA.

Paul

-----Original Message-----
From: Hans Arlt [mailto:HDA@nrc.gov]
Sent: Wednesday, February 18, 2004 9:33 AM
To: PBERTETTI@cnwra.swri.edu
Cc: JWINTERLE@cnwra.swri.edu
Subject: Re: Fwd: Review of USFIC 4.06, SDS 3.02, RT 3.06

Paul:
Please take a look at Phil's review. How do you view Phil's general major comment and his comment number (2)?
Thanks, Hans

>>> Hans Arlt 02/09/04 11:37AM >>>
I informed Phil that Paul Bertetti was the reviewer for RT.3.06 and SDS.3.02.

Text of Phil's review e-mail to which Hans refers

Hans. As requested, I reviewed Jim Winterle's draft response to DOE's responses to USFIC 4.06, SDS 3/02, RT 3/06. I note that they are all considered 'complete,' even though the supporting documentation was not available to the public. If this is consistent with Janet's Dec 23rd communication to Ziegler, I will not object.

However, I raise the idea here, that we should consider writing in the cover letter accompanying our final version of our response, the cautions that both DOE and Jim raised due to the uncertainties that DOE have described and the fact that the result of the tests so far have not been able to directly (or indirectly, I believe) support the development of UZ process models that feed DOE's TSPA. Jim is being polite, generous and hopeful in his response to DOE's inability to gain useful results, and its admission - if not DOE's disappointment - that its initial understanding of effective matrix coefficients was poor (for example) and is still not understood, among other things that Jim highlighted.
Also, DOE has not been able to constrain uncertainty associated with both the connectivity of fracture flow paths in the small but well drilled and well exposed rockmass being tested, and the unexpected variability over time of infiltration rates through the fractured rockmass. DOE cautions that inability to explain or constrain the uncertainties could cause the test objective of characterizing the relationship of permeability and water potential to not be met (paraphrasing Jim's analyses). Can DOE fail to obtain useful test results for key UZ parameters from Alc8-N3 tests described here, and otherwise obtain the necessary data in time for LA? If not, would this or newly designed tests to get the needed data be acceptably done in a Performance Confirmation program after CA? ARE THESE CAUTIONS POTENTIALLY SERIOUS ENOUGH (TO JEOPARDIZE DOE'S ABILITY TO GET DATA IT AND NRC THOUGHT WERE NECESSARY FOR A COMPLETE AND HIGH-QUALITY LA) TO RAISE WITH DOE AND NRC MGMT?

The bases for my worries are in Jim's excellent summary review.

Other comments:
(1) In the title, interchange the SDS and RT agreement numbers...they appear to be correct everywhere else.

(2) DOE has not used the new fracture data to address the USFIC/RT/SDS SZ agreements that it is using to address the RDTME agreements concerning rockfall and drift collapse. DOE should be using the same fracture spacing data, for example. The fracture spacing data input to the fracture-continuum models might influence seepage-threshold calculations. The fracture model for Alcove 8-Niche3 tests of seepage potential is different from the fracture model used for drift collapse that influences seepage. I believe that this should be raised with DOE mgmt. [I'm not sure how or where to do it...need to discuss with you if you agree].

Phil

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