HLWYM PEmails

From: Oleg Povetko
Sent: Thursday, December 06, 2007 11:50 AM
To: Panicker, Mathew
Subject: radiolytic species production inside TAD

Matthew,

Our e-mail is up again today, so I wanted to briefly explain what I mentioned yesterday during our phone conversation.

In course of the recent technical exchanges between NRC-HLWRS, DOE and Navy, they indicated that they will rely solely on utilities reactor records during TAD canister loading. In order to determine whether this is acceptable or some additional measurements could be recomended, the EPRI reports need to be reviewed. Information contained in EPRI documents is unique, specifically, on burnup credit verification measurements, determination of reactor records errors, examination of failed fuel. If we can examine the reports but cannot use the information in the Center report, there would be not so much benefit of us examining the reports since you already have access to the information and can use it in your decision making process.

If we cannot reference EPRI reports we can request you revise the scope of Task 3 and as a revised Chapter 3.4 include instead the scoping calculations on radiolytic species production inside the loaded TAD canister after it's welded. Currently we are conducting work for HLWRS in response to ACNW comments on radiolysis inside waste package based on results of French studies. At the time of the planning for the TAD report we didn't have these concerns raised by ACNW yet. Using our MCNP TAD canister models, we calculate amount of energy absorbed in air/vapor system inside the cavities, then determine amount of nitric acid or other species produced. Then our chemist will look at the potential effect of these species on the internal environment. The models will have to be modified for inert gas atmosphere but it shouldn't take very large effort. The output would be the production rate of certain radiolytic species as a function of the amount of water/moisture remained inside TAD canister after it's welded shut. If you find this proposition useful please let me know.

I wish you save transportation today.

Oleg.

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