WBN2Public Resource

From: Poole, Justin
Sent: Wednesday, June 01, 2011 3:06 PM
To: Crouch, William D
Cc: WBN2HearingFile Resource
Subject: discussion topics for clarification call

Bill,

Below is the staff's need for clarification that we intend to talk about during tomorrows call relating to your SAMDA RAI response letter dated 5/25/11. These are not formal RAIs but are intended as discussion topics for the call.

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FURTHER CLARIFICATION OF TVA WBN2 SAMDA RESPONSES OF 5/25/11

1. Clarification 2

The response does not clearly state how the unavailability of Unit 1 or shared components are accounted for in determining the annual averaged Unit 2 CDF and risk. Specifically, how is the potential higher unavailability of these items, during Unit 1 outages, incorporated?

The response talks about tech spec requirements and that they use the Maintenance Rule data but that the maintenance rule data doesn't include unavailability when the item is not required. For example take a simple example of a Unit 1 EDG which supplies power to the unit 1 shutdown board and is credited for unit 2 by cross-tying of the shutdown boards. The Unit 1 EDG has a listed unavailability due to testing and maintenance of 0.02 (based on the TVA list of RRW, typical for EDGs), while Unit 1 is at power (say, for simplicity, 95% of the year). Thus, with Unit 1 at power for 0.95 yr, the Unit 1 EDG is unavailable for 0.02 x 0.95 yr = 0.019 yr. However, there is an additional 0.05 yr (the 5% of the time Unit 1 is not at power) when the Unit 1 EDG could be unavailable if needed for Unit 2, such that the unavailability of the Unit 1 EDG for use at Unit 2 ranges from 0.019 yr to 0.019 yr + 0.05 yr = 0.069 yr. The actual value would be somewhere in between (e.g., if the Unit 1 EDG receives maintenance during half the time Unit 1 is not at power, then the unavailability of the Unit 1 EDG for Unit 2 would be 0.019 yr + [0.5][0.05 yr] = 0.044 yr).

How is this, and similar situations involving shared systems, modeled in the dual unit PRA?

2. Clarification 3.a

The 3rd issue raises the point of optimistically determined mission times for heat up calculations. In the last paragraph, TVA says that 24 hours was ***generally*** assumed. The F&O proposed resolution is for TVA to make an explicit judgment of the adequacy of the assumptions and document this. Thus the issue is still open since those where 24 hours is not used may be optimistic and TVA has not specifically indicated that they have made the explicit judgment suggested. TVA notes however that the peer review concludes that this F&O is met.

Please clarify what is excluded by the term "generally" and provide a definitive statement that TVA has reviewed the analysis and finds it adequate.

3. Clarification 5.a

This response states that the same data blocks were used in the SEQSOR emulator as in the SEQSOR code, except where processes or equipment that needed to be considered in the WBN2 analysis were not included in the NUREG-1150 analysis. Please confirm that the statement concerning data blocks means that the same data in the data blocks were used.

4. Clarification 5.b

The 1/31/11 RAI responses include source terms (Table 2.a.iv-4) and other release characteristics (Table 2.a.iv-5) for the 4 release categories. We now understand that these were not used to calculate the consequences but rather, the consequences were calculated for the dominant release category types that make up each release category, with these results weighted by the contribution from each release category type to the release category itself. These weighted release category consequences for the 4 release categories were then used to determine the benefit of each SAMDA.

Please indicate (1) how the values in these tables were developed and, (2) if they were used, in what way? Please confirm that the above understanding is correct, verifying that the values in the tables were not used in the benefit calculations. The standard SAMDA Safety Evaluation usually cites the ER tables that give the release fractions, and we need to qualify their use. Also, the standard SAMDA Safety Evaluation normally cites the release characteristics (release fractions and other items) used in the Level 3 analysis and makes a statement as to their reasonableness. Provide the source terms and the consequence results for the 11 release characteristics that were combined to produce the consequences for the 4 release categories.

5. Clarification 15

For SAMDA 47 - enhance screen wash system - TVA states the benefit is < 1.6% CDF. Please provide the basis for this considering that the loss of CCW is a 10% contributor to CDF while loss of ERCW is a 6% contributor. Back in 2004-2005 WBN1 had a series of debris and silting issues. While the screens themselves did not plug, some small lines after the screens were plugged.

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
Email Number: 380

Mail Envelope Properties (19D990B45D535548840D1118C451C74D84F4B301F5)

Subject: discussion topics for clarification call
Sent Date: 6/1/2011 3:05:45 PM
Received Date: 6/1/2011 3:05:47 PM
From: Poole, Justin

Created By: Justin.Poole@nrc.gov

Recipients:
"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>
Tracking Status: None
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Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time
MESSAGE	4968	6/1/2011 3:05:47 PM

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