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Rules and Directives
Branch
Planning

From: E. William Brach
To: Edward Wilds
Date: 4/8/03 9:49AM
Subject: Re: Draft PPS Comments.

Ed, Thank you for your comments. I will forward the comments to Amy Snyder, Rob Lewis and Andy Murphy for their review and consideration. I again thank you for your participation in the Rockville PPS meeting, and the comments you provided.

Best regards, Bill

>>> "Edward Wilds" <edward.wilds@po.state.ct.us> 04/07/03 05:25PM >>>

Bill:

I apologize for the delay in getting comments back to you about the PPS. I will try to address each question asked in the PPS draft and add a few thoughts at the end.

How many casts and what types of cast designs should be used in the tests?

The number of casts should be flexible. It is important that the computer models are verified, not how many casts are tested. Two casts demonstrating the modeling are correct is better than having 6 casts provide no usable information.

At what scale should the cask impact tests be conducted (e.g. full-scale or a partial-scale)?

Given the perceived commitment to full scale testing you have no choice but to do full-scale testing. To decide to conduct partial-scale testing at this point would cause severe credibility problems for the program.

Should the impact tests be conducted as drops from a tower, as proposed in this report, or along a horizontal track using a rocket sled?

Since I believe the intent of this study is to obtain good usable data, the impact tests should be done using the drop test. This allows for reproducible results in the testing.

What should the impact speed and orientation for the rail cask impact test?

It should be as reported in the draft 75 mph in the Center of Gravity-Over-Corner orientation.

Is 96 to 144 kph (60 to 90 mph) a reasonable speed range for the rail cask impact test given that the frequency for a rail cask impacting a hard rock surface within this speed range is 10e-6 to 10e-8 per year?

Yes

Is the 120 kph (75 mph) rail cask test impact speed proposed by the NRC staff appropriate?

Yes

What should the impact speed be for the back breaker truck cask impact test?

I believe that testing at 75 mph is adequate. This also allows for standardization test protocols and utilization of facilities between rail and truck cast tests. The vehicle carrying the cask will not be travelling at speeds this great. NRC regulations require spent fuel shipment be escorted by either a private security force or LLEA. I believe all state will escort using LLEA whenever possible given the present state we are in and the LLEA's will not allow vehicles to travel at speeds greater than this. Therefore, the test will be at the upper edge of the speed envelope.

What should be the duration and size of the cask fire tests?

Several questions have been raised related to the Baltimore Tunnel Fire. I believe that the test should address this situation, but in a realist manner. I believe the code HOTSPOT used by Radioactive Waste Management Associates is not the appropriate code to model radiological consequences for this hypothetical incident. NRC should review the parameter restriction to the HOTSPOT code before accepting the output described in several papers. Also, I believe that Chris Bajwa pointed out very clearly

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All = A. Snyder (AMS3)
A.J. Murphy (AJM1)

that the scenario described by Mr. Halstead was not physically possible. I agree that the conditions in the Baltimore Tunnel Fire need to be addressed, but I must caution NRC on going far beyond the realm of physical possibility.

Finally, I believe that the PPS needs to be set up so that there success in the end. This requires that the number of casts tested cannot be restricted prior to any testing and that the results must be linked. If the computer model accurately predicts the damage, then one should move on the the next set of tests. If the computer model does not adequately predict the damage, then the code must be corrected and retested before one can move to the next phase. Success will be having a computer code that accurately predicts damage when the PPS is completed, whether or not the code needs corrections. If one limits the number of tests prior to any verification, then the question of whether the parameters were specifically chosen to guarentee success will always be asked and it can never be proved otherwise to the public's satisfaction that the parameters were properly chosen.

I hope this is of some value to your project.

Ed Wilds

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