

Mr. E. William Branch, Director
Spent Fuel Project Office
Office of Nuclear Materials Safety and Safeguards
Nuclear Regulatory Commission
Washington, D.C. 20555

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Rules and Directives
Branch
NRC

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Dear Mr. Branch:

Thank you for allowing me to review and comment on the U.S. Nuclear Regulatory Commission's (NRC) Package Performance Study (PPS) of spent nuclear fuel transportation packages. The following are my comments to the transmitted document.

I hope that this Package Performance Study is not an exercise in futility as many of the interveners are more interested in stopping this program than in insuring that the spent nuclear fuel is transported safely. It is most likely that when this study is done and the testing is completed that there will be more comments regarding how unsafe the transportation program is.

Specific comments include the following.

In the executive summary, page ix, the third paragraph, the NRC needs to evaluate whether the comments are real stakeholder concerns or primarily comments that will hopefully delay or, better yet, cancel the program. I think that the comments around full scale testing are just those types of comments. Most commenters do not have a very good understanding of what can be done by computer analysis, except for Bob Halstead and a few others, who is promoting this issue to justify his contract with the Nevada Nuclear Waste Projects Office.

The test conditions used need to have buy-off from all concerned parties prior to the tests, including either the acceptance criteria or the probable test results. Otherwise, there will continue to be the opinion that the tests really didn't prove anything and they will continue to criticize the program.

If this effort is being done to satisfy that group of people, then the prescribed tests should be taken to failure with the purpose of showing that there are NO credible highway or rail accident conditions that would approach the severity of the failure condition. Otherwise these interveners will continue to develop conditions that should be tested. For tests to failure, the criteria would be how severe the conditions would have to be to cause a package failure. This would also require defining what would constitute failure. For any other non-failure test you would need to develop appropriate acceptance criteria, not necessarily the criteria in 10CFR71.

On page x, the (4) concerns conducting laboratory tests to examine tests to extreme rod failure, pellet fracturing, and the release of pellets from the failed rods. I feel that conducting tests to examine rod failure is a waste of time and money. In spent fuel shipments from West Valley, NY, we found that there were already failed rods and loose pellets with no extreme tests conditions. It would seem more prudent to examine what accident conditions would need to occur to allow the fuel pellet material to escape the cask and then show that there are no credible.

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highway or rail accident conditions that would approach the severity of the failure condition.

On page xii, public comments, I suggest the following;

*First bullet - One cask of each type tested would be sufficient for each type of test performed. Each type of cask tested should be subjected to an impact test and a fire test.

*Second bullet - The tests should be performed on full scale casks, otherwise the interveners will continue to claim that you tested a hand picked model and not a production cask.

*Fourth bullet - The truck cask impact tests should be performed on a track impacting an unyielding surface at about 90 mph.

* Fifth bullet - The rail cask impact test should be performed on a track impacting an unyielding surface at about 90 mph.

*Seventh bullet - The back breaker test should be conducted at an impact speed of 60mph.

*Eighth bullet - I would recommend that a 90 minute fire duration, fully engulfing fire be used for this test.

*Ninth bullet - I would suggest that the cask be in a horizontal position for the fire tests.

*Tenth bullet - I do not feel that real fuel should be used in any of these tests as it is a given that there are failed fuel elements ready to be shipped. Rather, I suggest that all these tests focus on what it takes to retain the failed fuel pellet material in the cask following the test conditions.

* Eleventh bullet - If what is meant by this statement is will the cask continue to meet the NRC post accident acceptance criteria, then I think that criteria should not apply. If tests are going to be conducted beyond the NRC 10CFR71 test conditions, then an evaluation needs to be conducted to establish acceptance criteria appropriate with the test conditions considering public health and safety and being consistent with actions that can be taken to protect the public.

On page 38, there is a discussion regarding square truck cask impact orientations. It includes the statement that the flat surface produces higher accelerations and greater plastic deformations in the containment boundary. I think that more proof is needed to show that the statement is correct because there would be a tendency for the cask to try to flatten. This would result in a different effect on the containment volume which could tend to crush the fuel assembly.

Again, thank you for the opportunity to review and comment on the NRC's Package Performance Study Test Protocols.


Paul N Standish