



Utah!

Where ideas connect

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Dianne R. Nielson, Ph.D.
Executive Director

May 30, 2003

Chief, Rules Review and Directives Branch
U.S. Nuclear Regulatory Commission
Mail Stop T-6-D-59
Washington, DC 20555-0001

Dear Sir,

RE: Comments Regarding U.S. Nuclear Regulatory Commission Package Performance Study
Test Protocols—Draft Report for Comments, NUREG-1768, February 2003

The following recommendations are provided in response to the request for comment on the above-referenced NRC Package Performance Study Test Protocols. Thank you for providing the opportunity for public review, not only through the public notice, but also through the workshop in Las Vegas.

The State of Utah has a vital interest in all aspects of transportation of spent nuclear fuel (SNF). Under the current designation of Yucca Mountain as the permanent repository for the nation's commercial SNF, upwards of 90 percent of that nuclear waste will be transported through Utah. However, our concern is more urgent than the proposed Yucca Mountain schedule. Under the pending proposal by Private Fuel Storage, LLC (PFS) for an away-from-reactor Independent Spent Fuel Storage Installation (ISFSI), the very same SNF could be transported to Skull Valley, Utah, well before testing and implementation of transportation protocols under the proposed Yucca Mountain transportation schedule. In other words, spent nuclear fuel could be traveling our roads and rails with increased frequency and volume before the NRC has completed the very work it deems necessary to protect the public and environment during those SNF shipments.

The following additions should be made to the test protocols and the schedule.

1. All cask designs that are proposed for transportation (including road, rail, and barge transport) should be tested prior to certification or approval for use in transportation to any away-from-reactor SNF storage facility. Specifically, the testing and implementation of recommendations and new protocols/regulations should be

completed before SNF is transported to Yucca Mountain or any other proposed permanent or temporary disposal site such as the proposed PFS facility.

2. Once a cask design is approved, testing should continue on random new casks. On an ongoing basis, NRC should select and test a random number of new casks to the same set of tests and standards that were used in the original protocol and cask licensure.
3. A random number of used casks should be tested on an ongoing basis, and NRC should establish criteria for taking a cask out of service. As part of the testing protocol, NRC should test a random number of casks that have been in use for specified periods of time. The tests should include the completed sequence of original tests. The objective is to evaluate the consequences of standard, non-accident or impact, wear and tear on the cask in order to ensure that used casks continue to meet the same operational standard as new casks. This data should also be part of a protocol for determining the inspection schedule, maintenance schedule, and safe "life" of a transportation cask.
4. While the main purpose is to determine the impact on the casks and canisters, NRC should also evaluate the impact on the spent fuel rods inside the canister to determine if the cladding will shatter. Such a test should include determining what effect manufacturing new mock SNF rods have on the test when the cladding in actual SNF rods are up to 40 years old and may be deteriorating.
5. The tests impacts, temperatures and durations should be as stringent as conditions in accident sequences that have occurred, actual transportation speeds and impacts, and conditions that can be reasonably anticipated to occur. Is the proposed speed range of 60-90 mph reasonable for rail and truck cask tests? What are current conditions allowable by law (e.g., speed limit)? Does the proposed speed range encompass the acceleration of a runaway train or semi down a steep embankment that may strike a cask?
6. The protocol should bound the possible accidents scenarios during transportation, handling or storage, including ensuring that the orientation for the orientations of impact are the most damaging orientation for all the cask components. What effect would a non-perpendicular impact have on the cask (e.g., derailed train, jack-knifed truck)?
7. Casks should be tested to the standard and to failure, to establish the operational capability and the limits of cask integrity.
8. Test protocols should include terrorist attack scenarios. NRC should analyze the impact of a TOW missile.
9. NRC often authorizes exemptions to its cask certificate of compliance. NRC should ensure that the test casks are representative of the average manufactured cask.

10. As the NRC provides additional workshops and opportunities for public meetings, Salt Lake City or other appropriate locations in Utah should be included in the schedule. Because of the anticipated large number of shipments of SNF traveling through Utah, it is essential that there be ample opportunity for public involvement.

Thank you for your consideration of these recommendations.

Best regards,

A handwritten signature in cursive script that reads "Dianne R. Nielson".

Dianne R. Nielson, Ph.D.
Executive Director