

**From:** Brian O'Connell <boconnell@naruc.org>  
**To:** <nrcprep@nrc.gov>  
**Date:** Fri, May 30, 2003 1:17 PM  
**Subject:** Response from "Comment on NRC Documents"

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Below is the result of your feedback form. It was submitted by

Brian O'Connell (boconnell@naruc.org) on Friday, May 30, 2003 at 13:17:09

Document Title: Test Protocols Report Package Performance Study  
 NUREG-1768

Comments: National Association of Regulatory Utility Commissioners

Comments on Study Test Protocols  
 For the  
 Package Performance Study

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#### Summary

The proposed tests are extra-regulatory but may have value in satisfying those who have been concerned that no full-scale tests have been conducted for spent fuel casks, even though computer simulation and component testing has been done as part of the cask certification process.

Comments on eleven specific issues for which the Draft Report asked stakeholder views.

1. Number and types of casks to be used in the tests. We believe the tests should match as closely as possible the expected use of casks in transportation to the proposed geologic repository. DOE has stated in has a preference for rail shipments, if Yucca Mountain is licensed as a repository. Thus, a rail cask should be tested. Even in the "mostly rail" transportation scenario, there will also be some legal-weight truck shipments, so a truck cask should be tested as well. As it is our understanding that the casks are well-built, they are also expensive. Therefore, unless there is some substantial additional benefit to be gained from using more casks, one of each should be sufficient.

2. Scale of tests. We are not test engineers and we doubt many other stakeholders will have the knowledge to offer a response that is based on knowledge or experience. Naturally, it would seem that full-scale tests would be beneficial, but we do not know whether a fractional scale test would be sufficient. Since rail casks are substantially larger and cost more, it may be as useful to conduct a half-scale test with the rail cask. People will propose more tests anyhow, but they can do so without having to be concerned with cost.

3. Drop test or horizontal sled test. As we understand it the horizontal test is more realistic but is more difficult to conduct and, we gather, more expensive. If the test velocities are equal, it would seem that a drop test would be suitable. The trade-off is difficult to weigh since we are not aware of costs of each test and we have no sense for the difficulties of conducting the horizontal tests.

4. Rail impact speed and orientation. If there are regulatory speed limits for each mode, there should be a test speed that matches those speeds plus some margin for unauthorized higher levels, such as additional 25 percent. We have no basis to choose between the "head-on" orientation or an oblique angle.

5. Rail test speed range. We are unfamiliar with what operating speed range is for freight trains in the United States, but 90 mph seems higher than the "reasonable speed range" suggested in the draft

Template = ADM-013

E-RIDS = ADM-03  
 Add = A. Snyder (AMS3)  
 A.J. Murphy (H.S.M.I.)

report.

6. Rail cask impact speed. 75 mph does seem like an appropriate impact speed.

7. Backbreaker truck impact cask impact speed. 75 mph hour seems more appropriate than 90 mph. There are regulatory limits, or should be, that prohibit reaching 75 mph with radioactive materials on board.

8. Fire size and duration. 30 minutes is sufficient.

organization: National Assoc. of Regulatory Utility Commissioners

address1: 1101 Vermont Ave,NW

address2: Suite 200

city: Washington

state: DC

zip: 20005

country: USA

phone: 202-898-2215

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