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To: <NRCREP@nrc.gov>
Date: Tue, May 27, 2003 5:05 PM
Subject: AAR Commnets to Draft NUREG 1768 - Solicitation of Public Comments on Spent Nuclear Fuel Package Performance Study Test Protocols

Attached are AAR comments to the Draft NUREG 1768 - Solicitation of Public Comments on Spent Nuclear Fuel Package Performance Study Test Protocols. These comment reinforce public comments made be me at the March 6, 2003 public meeting held at NRC headquarters in Rockville, MD.

Sincerely,

Robert E. Fronczak

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May 27, 2003

BEFORE THE
NUCLEAR REGULATORY COMMISSION

Draft NUREG-1768:
Solicitation of Public Comments on Spent Nuclear Fuel Transportation Package Performance
Study Test Protocols

COMMENTS OF THE
ASSOCIATION OF AMERICAN RAILROADS

On behalf of its member railroads, the Association of American Railroads (AAR)¹ submits the following comments in response to the Nuclear Regulatory Commission's (NRC) solicitation of public comments on spent nuclear fuel transportation package performance study test protocols.² AAR expects that its member railroads will be involved in all rail shipments of spent fuel to a geologic repository. Thus, AAR's members have a substantial interest in this proceeding. This submittal reinforces comments made at the public hearing held at NRC's headquarters in Rockville, MD on March 6, 2003.

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

AAR believes that the tests should be performed in the manner that allows the best scientific data to be collected. While the horizontal impact test might have the benefit of being able to better visually demonstrate cask safety to the public in the same orientation the cask will be transported in practice, it may be harder to get the precise speed desired at impact. Whatever method is used, the data should be collected to allow the modelers to predict the speed at which the cask will fail, and also allow the report team to compare the forces needed to fail the cask with the forces that occur in real world accidents to determine if there are any potential real world accidents that are capable of breaching the cask. By understanding this relationship,

¹A trade association whose membership includes freight railroads that operate 76 percent of the line-haul mileage, employ 91 percent of the workers, and account for 93 percent of the freight revenue of all railroads in the United States; and Amtrak, which operates almost all of the nation's intercity passenger trains.

²68 Fed. Reg. 8530 (Feb. 21, 2003).

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designers and system operators might be able to design the system to prevent these potential forces from occurring.

II. Are 60 to 90 miles per hour a reasonable speed range for the rail cask, given that the frequency for a rail cask impacting a hard rock surface within this speed range is 10^{-6} to 10^{-8} per year?

III. Is the 75 miles per hours rail cask impact speed proposed by the NRC staff appropriate?

The 60 – 90 mile per hours speed range, and the impact speed of 75 miles per hour proposed by NRC staff seem reasonable. Freight trains operate up to 70 miles per hour. For that reason, trains on opposite tracks could be operating at a relative speed of 140 miles per hour. Given that the tests being proposed are going to utilize unyielding surfaces, the 75-mile per hour test speed appears to be reasonable. However, as indicated above, the work should be performed in such a way as to be able to determine what forces would be necessary to fail a cask, so that a system can be developed to determine whether a cask could be breached in real world accidents. That information could be used to design cask systems that avoid those forces.

IV. What should the impact speed be for the back breaker impact test?

While AAR does not have a position on the speed of the back breaker test, the back breaker test should be performed in such a way as to collect data necessary to determine the effect of a crush load if possible. Crush loads are not required for large type B packages. Trains consist of multiple cars. When trains are involved in derailments, cars can and do pile on top of each other. For that reason, crush loads are a real possibility. While the back breaker test is not a crush load test, data collected from a back breaker test that could be used to determine what would happen to if one cask were to impact upon another cask, thereby subjecting one of them to a crush load. The purpose of such an analysis would be to determine if there are credible railroad accidents that might occur that have the potential to breach the cask.

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

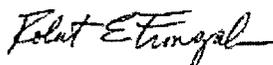
VI. What should be the cask position relative to the fire?

The AAR has no position on either of the two questions directly, but we would like to see whatever fire testing that is done to be completed in such a way so that the data can be used to determine when a cask could fail, based upon the heat input. That information could be used by emergency responders to assist in determining the amount of time they have to take action to reduce the heat input with water, or other means to prevent that occurrence. The data might also be used for cask and or cask system design.

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AAR's member railroads are committed to transporting SNF safely. AAR encourages NRC to utilize the package performance study to gain new insight into the safe transportation of SNF. AAR looks forward to working with NRC to make the rail transportation of SNF as safe as reasonably possible.

Respectfully submitted,



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