



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 6, 1995

Mr. James M. Souby  
Executive Director  
Western Governors' Association  
600 17th Street  
Suite 1705 South Tower  
Denver, Colorado 80202-5452

Dear Mr. Souby:

I am responding to the letter from Governor Nelson and Governor Schafer to Chairman Selin dated July 26, 1995. In that letter, the Governors provided us with the Western Governors' Association's (WGA's) policy resolutions regarding transportation, storage, and disposal of spent fuel and high-level radioactive waste, adopted during your 1995 Annual Meeting. We appreciate this information being provided to us as it will help the Commission to better understand the views of the WGA. As requested in the Governors' letter, I am providing you with our observations.

In the WGA's policy statement for "Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste," the Association indicates it regards full-scale testing of transportation casks for spent nuclear fuel and high-level waste as a critical step needed to prepare for shipments. NRC regulations (10 CFR Part 71) do not require full-scale testing of transportation casks for certification. An applicant can demonstrate that a cask meets the accident conditions for Type B packages through analysis or scale-model testing, as well as through full-scale testing. Applicants tend to use a combination of analysis and scale-model testing.

In actual practice, NRC would be unlikely to approve the design of a large spent fuel cask based solely on full-scale testing, because such testing does not fully describe the structural performance of the cask. A detailed analytical computer analysis showing multi-dimensional details of the cask design's structural capability is also needed. Hence, for the types of designs developed to date, NRC is unlikely to require full-scale drop testing of large spent fuel casks.

The WGA's policy statement for "Emergency Preparedness for the Shipment of Radioactive Materials by Sea" states that transport vessels and transport packages must meet "independently verifiable standards to withstand maritime accidents including collision, fire and sinking under the maximum credible accident scenario." NRC regulations do not require packages to withstand a maximum credible accident scenario. NRC regulations are based on adoption of

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the International Atomic Energy Agency (IAEA) regulations. As a consultant to the U. S. Department of Transportation (DOT) -- the U. S. representative to the IAEA for the transport of radioactive materials -- NRC contributes significantly to the development of these IAEA regulations. The existing regulations for Type B packages require an applicant to demonstrate that the package will be able to withstand very severe accident conditions. These requirements encompass a large percentage of accident scenarios and provide a high degree of protection to the public health and safety, as is demonstrated by the transportation safety record. Although this degree of protection is not absolute, studies indicate that the risk associated with a maximum credible accident of sea shipments of high-level radioactive materials is small because the probability of such an accident occurring is extremely low. As part of an ongoing effort to assess the transport regulations, IAEA member states are conducting a coordinated research program to review existing data on the severity of accidents at sea.

In addition, in the same WGA's policy statement, it is noted that "Materials that cannot be transported safely and protected against a credible accident scenario should not be transported." As noted in the background for the policy statement, the safety in the transport of radioactive materials relies primarily on the package for protection in the event of an accident. In evaluating a transportation package for approval, the nature and form of the radioactive material contents are considered. IAEA, NRC, and U.S. Department of Energy studies have shown that Federal regulations governing transportation package design, handling, and operations for radioactive materials provide adequate protection against credible accident scenarios. In addition, in 40 years of transport of radioactive materials, there never has been a death related to the radiological nature of a package's contents. Therefore, we believe all radioactive materials can be transported safely if they are transported in accordance with the regulations.

We share the WGA's interest in the safe transport of radioactive materials, and will continue to vigorously monitor our transportation regulations and package certification activities.

We thank you for your interest in the safe transport, storage and disposal of high-level radioactive materials and appreciate the opportunity to comment on your policy statements.

Sincerely,  
*Original signed by Carl J. Paperiello*  
 Carl J. Paperiello, Director  
 Office of Nuclear Material Safety  
 and Safeguards

*see CSP2*

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