

**Blue Ribbon Commission on America's Nuclear Future
Transportation and Storage Subcommittee
November 2, 2010**

Summary of Statement by Association of American Railroads

The transportation of spent nuclear fuel by rail is likely since rail is the safest method of transporting hazardous materials by land. In addition, transporting by rail makes sense because the weights being considered are much higher than are typically transported by highway. In order to assure the safe transportation of SNF by rail, the industry developed an interchange specification for trains used to carry high level radioactive materials (S-2043). The specification requires roadworthiness of all cars in the train over and above standard freight cars to further reduce the probability of a derailment. In addition, the specification calls for on-board defect detection to sense certain conditions that could cause a derailment. Finally the specification calls for electro-pneumatic controlled (ECP) brakes. ECP brakes reduce stopping distance by applying the brakes throughout the train simultaneously. Current technology utilizes air pressure to propagate through the train. ECP brakes also provide the electronic connection for transmitting the defect detection signals to the locomotives. S-2043 requires cars to be modeled before a prototype is built. Once a prototype is built, the design needs to pass a series of static and dynamic tests to show the cars meet the performance requirements. When the car passes the performance tests, a package is submitted to AAR's equipment Engineering Committee for approval. Finally, the car is subject to a 100,000 mile evaluation period to show the car can continue to meet the specification. The lead time is approximately 2-3 years before production cars can be ordered. All cars in the train are required to meet the standard, including the buffer cars and personnel car.

In order for the standard to work, dedicated trains will be required. Dedicated trains have many benefits including the ability to create a train with similar dynamic characteristics since SNF cars weigh so much more than other cars. It allows the defect detection equipment to be used employing the electronic cable provided for the ECP brakes, and it will reduce the time in transit, since a dedicated train will not have to be switched in classification yards. The ECP brakes will allow for faster stopping, reducing the possibility of grade crossing and other collisions. In addition, it will allow for more effective security, since trains will not have to be switched in classification yards in transit. Finally, inspection and maintenance will be easier to provide.

In summary, rail is the safest method for transporting SNF to a repository. There is a significant lead time required to procure the rail equipment meeting AAR's specification for such equipment. There are many reasons for using dedicated trains including efficiency and safety.