



High-Level Radioactive Waste Committee Position Paper

The “WIPP Transportation Model” and Its Application to SNF/HLW Transport Number 2017-1

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In General

This Position Paper represents the views of the Western Interstate Energy Board as developed by its High-Level Radioactive Waste Committee (HLRWC). WIEB was created under the Western Interstate Nuclear Compact in 1970, and the WIEB Board members are appointed by the governors of the Compact states. The [HLRWC is composed of nuclear waste transportation experts](#) who collaborate on this topic with the U.S. Department of Energy as well as many others. The HLRWC, in existence for over thirty years, has drawn from its members’ extensive experience in order to create [Position Papers](#). Once approved by the WIEB Board, this and the other Position Papers represent WIEB’s view of how to create and maintain an ideal nuclear waste transportation campaign. Although the HLRWC only speaks on behalf of the Western WIEB member states in these Position Papers, it acknowledges the essential involvement of many partners in assuring this ideal campaign: one that is safe, uneventful, and publicly acceptable.

Statement of Policy

DOE should work collaboratively with Western states and other relevant parties to develop a comprehensive transport safety program for the shipment of spent nuclear fuel and high-level radioactive waste (SNF/HLW) to consolidated storage sites and/or a repository. A previous collaboration resulted in the development of a highly-regarded transport safety program for shipments of transuranic waste to the Waste Isolation Pilot Plant (WIPP).

Background and Context

1. The Western Governors’ policy: use the WIPP process.

The policy of the twenty-one Western Governors provides that: “The WIPP Transportation Safety Program Implementation Guide is an excellent model for transportation planning,

and a similar guide should be used as a base document for DOE transportation programs for shipments of spent nuclear fuel, High-Level Waste, and/or Greater Than Class C (GTCC) waste to any storage and/or disposal facility.”¹

2. The Blue Ribbon Commission recommendation: WIPP provides a “successful model.”

In its January 2012 final report, the Blue Ribbon Commission (BRC) strongly recommended the WIPP transportation program as a model for federal partnership with states, recognizing that “[t]he WIPP facility.....provides a longstanding and highly successful model for partnering with states to achieve shared success in addressing issues related to the transport of nuclear materials.”² The BRC found that: “States have extensive experience with transportation issues and important roles to fulfill with respect to issues such as routing, inspections, training, emergency preparedness, communications, public information and security for radioactive materials and other hazardous shipments.”³

3. The WIPP transportation planning process.

The “WIPP transportation model” is fully documented in the Western Governors’ Association (WGA) WIPP Transportation Safety Program Implementation Guide. Two early WGA reports not only created the foundational program concepts, but demonstrated that the WIPP experience should be used to prepare for future large-scale shipments of SNF, HLW, and other radioactive materials. These WGA reports include the following:

- Report to Congress: Transport of Transuranic Wastes to the Waste Isolation Pilot Plant—State Concerns and Proposed Solutions, June 1989.
- Report to the Western Governors and Secretary of Energy: Safe Transport of Transuranic Wastes to the Waste Isolation Pilot Plant, June 1991.

Key elements of the “WIPP transportation model”:

- High-level negotiators represented DOE consistently throughout the process.
- The Western state negotiators were persons with both extensive experience in hazardous materials transport and access to their governors; these negotiators were supported with federal funding so as to make the negotiations a priority and a substantial portion of their jobs.
- The focus of the negotiations was to ensure “safe and uneventful transportation” of transuranic waste, through provisions addressing routing, state inspections, bad weather and road conditions, high quality carriers and drivers, emergency response and emergency response training, notifications and communications, contingency planning, safe parking, carrier audits, and public information.
- Recognizing a heightened public interest in such a large and prolonged radioactive materials transport campaign, the Western states insisted that DOE go beyond

¹ Western Governors’ Association Policy Resolution 2016-03.

² BRC Report to the Secretary of Energy, Jan. 2012, pg. 85.

³ Ibid.

minimum federal requirements for many elements of the WIPP transportation program, and adopt extra-regulatory accident prevention and emergency response measures. DOE eventually agreed.

- Full-scale cask testing of the TRUPACT-I and TRUPACT-II transport casks was an important step in establishing credibility for the program.
- The need for casks to be certified by the Nuclear Regulatory Commission (NRC).
- Western states and DOE cooperatively developed a risk communication program including protocols for public information response to accidents and incidents.
- The states’ willingness to endorse the WIPP transport safety program was critical in establishing public confidence and reducing opposition to the shipments.

4. The success of the WIPP transportation program.

- More than 11,900 shipments of transuranic waste have been transported safely to WIPP. All of the dozen or so transport incidents that have occurred have been minor. Emergency response has been quick and effective.
- Biennial reviews of the program by the Western states have consistently found it to be a successful system for safely transporting transuranic waste.

5. Significant differences between rail and highway shipments must be addressed.

As the Western states and DOE discovered in 2003-2004 while looking to adapt the WIPP transport program to support WIPP shipments by rail, there are significant differences between the two transport modes. That rail shipments occur on privately owned property instead of in the public right-of-way is just one of the many fundamental differences. These differences must be recognized and accounted for, while still maintaining the integrity of a collaborative process to develop the transport program.

Policy Recommendations

1. Use the WIPP transport safety program as a starting point to develop a commensurate transport safety program for rail.

Despite the differences between highway and rail, the common-sense principles embedded in the WIPP transport program are also relevant for SNF/HLW shipments: well-maintained equipment; well-trained and experienced crew; rigorous independent inspections; using the best routes and focusing training along those routes; providing advance notification and shipment tracking to the states; and, having provisions in place for bad weather or other off-normal occurrences.

2. Follow the WIPP model as closely as possible for highway shipments of SNF/HLW.

Some shipments of SNF/HLW must be transported by highway instead of rail. Security restrictions related to SNF/HLW transport will require some changes in terms of shipment

schedule availability and access to shipment tracking, but otherwise the WIPP program should be readily adaptable to SNF/HLW shipments by highway.

3. Commit to a collaborative approach to develop a rail transport safety program.

The WIPP experience provides the best model for negotiating and conducting large-scale SNF/HLW transportation operations. Its key feature is that high-level federal and state personnel were appointed to negotiate and achieve consensus on the transportation program, and were provided the authorization, funding support and time to work through the details.

4. Consistent with the Western Governors’ charge to their staffs for WIPP, develop and maintain a transport program that is “safe and uneventful” for SNF/HLW transport.

For the WIPP transport safety program, DOE eventually agreed to extra-regulatory requirements for all WIPP shipments. These requirements reduce the likelihood of an accident occurring and help provide for a more efficient and robust response if an accident does occur. Relying strictly on existing regulations and the integrity of the casks is not sufficient to achieve “safe and uneventful” transport.