Western Interstate Energy Board

High-Level Radioactive Waste Committee Position Paper

Social Risk

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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

Before undertaking any large-scale spent nuclear fuel or high-level radioactive waste (SNF/HLW) shipping program, the U.S. Department of Energy (DOE), or any new management entity, must anticipate, identify, and actively mitigate "social risks" that will potentially impact shipment activities. The success of a shipping program may depend as much on the management of social risks as radiological risks.

Background and Context

1. **Public concerns about the safety and security of SNF/HLW shipments result in social risks.** The success of a large-scale shipping campaign must address public concerns about nuclear

waste safety and security. These public concerns are the framework within which a transportation program must function. They are the result of social processes that are hard to predict, quantify, and measure. As a result, the communication and stakeholder engagement standards for an organization shipping spent nuclear fuel and high-level radioactive waste are extremely high. Every aspect of the transportation program must be of extremely high quality, and be perceived as such, by the affected public.

2. **The stigma associated with radioactive materials is well-documented.**
   The mere mention of nuclear waste conjures up images of pollution and contamination, and triggers fears of mutation, illness, and death. These associations have resulted in social processes that impact radioactive waste management. The National Academy of Sciences (NAS) Committee on Transportation of Radioactive Waste 2006 report labeled these social processes and human perceptions as "social risk."[1] One manifestation of social risk is that the stringent regulatory framework surrounding the transportation of radioactive materials is not sufficient to address all of the social processes that result in public concern.

3. **Even routine shipments can result in impacts**.
   According to the NAS, routine shipments can have both direct socioeconomic (loss of economic or social well-being) and perception-based impacts (increased stress and anxiety and associated illness; loss of property values; and reduced economic activity).

4. **Accidents would likely result in greater impacts**.
   Accidents involving nuclear waste shipments could result in direct socioeconomic impacts (temporary loss of transportation route use, and associated business disruptions, such as loss of tourism) and a range of perception-based impacts. In particular, accidents could result in the social amplification of the adverse impacts of routine operations, including stigmatization of people and places, and in loss of trust and confidence in government and government agencies. This could potentially result in a moratorium on transportation operations and increased program costs.

5. **Social risks are difficult to measure, hard to quantify, and vary over time and within populations.**
   Despite these problems, there is a robust body of research that has analyzed perceptions of and responses to radioactive waste topics, focusing on social risk. The NAS provides a useful review of some of this research in their 2006 report.[2] Any agency seeking to ship large quantities of SNF/HLW across the country for an extended period of time should draw on this research in devising a transportation program in order to mitigate some of these social risks.

[1] "*Going the Distance: The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States*," National Research Council, 2006, pg. 333.
[2] Id. at pp. 154-161.

6. **A social risk program could help identify and effectively respond to problems.**
   A program of this type may effectively reduce or ameliorate the processes which can lead to program delay or cancellation. Another goal of a social risk program is to inform the management of a shipping program about the importance and significance of social risk. It may also create a conduit for effective interactions between the management organization and its stakeholders.

Policy Recommendations

1. **Any agency planning a large-scale spent nuclear fuel or high-level radioactive waste shipping campaign should follow the NAS recommendations regarding social risks.**
   The NAS made two specific recommendations for the DOE repository transportation program: expand the membership and scope of an existing advisory group[3] to obtain outside advice on social risk, including impacts and management; and, establish a *transportation risk advisory group* that is explicitly designed to provide advice on characterizing, communicating, and mitigating social, security, and health and safety risks that arise from the transportation of spent nuclear fuel and high-level radioactive waste to a federal repository or interim storage facility. The NAS suggested that the current Nuclear Waste Technical Review Board could be broadened to serve this function after repository operations begin.[4]

2. **The social aspects of nuclear-related activities should not be minimized.**
   The NAS expert consensus report made this general recommendation: "Transportation implementers should take early and proactive steps to establish formal mechanisms for gathering high-quality and diverse advice about social risks and their management on an ongoing basis."[5]

3. **Information from past and current transportation programs should be examined for lessons learned and meaningfully incorporated into the new program.**
   The collaboratively developed state and DOE Waste Isolation Pilot Plant (WIPP) transportation program incorporated a number of common-sense elements that have helped reduce public anxiety about these shipments. This includes stringent requirements for the drivers and trucks; requirements for avoiding certain hazardous road and weather conditions; extensive training of emergency responders and public officials along the transport routes; and full-scale testing of the transportation casks. We suggest, as did the Blue Ribbon Commission on America's Nuclear Future, that using the WIPP Program as a model would be useful in designing the SNF/HLW transportation program.

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[3] At the time of the NAS recommendations, that group was the Transportation External Coordination Working Group. It has since been replaced by the National Transportation Stakeholders Forum.
[4] Id. at 11.
[5] Ibid.

4. **Information from DOE's consent-based siting hearings should be incorporated into the program.**
   DOE conducted a series of public meetings with stakeholders and communities around the country to seek feedback and inform future efforts. In its draft report on the consent-based siting process, DOE acknowledged that social considerations are important in siting a nuclear waste management facility and offered potential options for dealing with these factors. Those DOE draft report findings, gleaned from public hearings and written comments, should be considered in developing the strategy to address the social risk in transportation of SNF/HLW.