

Issue Focused Stakeholder Collaboration: Reaching Consensus on Spent Nuclear Fuel Transportation Operational Practices- 15465

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ABSTRACT

This paper examines stakeholder and issue-focused approaches used by Department of Energy (DOE) programs to collaborate with key stakeholders on transportation practices to ship radioactive material, particularly used nuclear fuel (UNF) and transuranic waste (TRU). In accordance with the Administration's *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste*, the current effort by DOE to plan for the development of a future transportation system to ship UNF from commercial reactors, with an initial focus on shutdown reactors, is using approaches similar to those used in other successful shipping campaigns to collaborate with stakeholders about sustainable transportation practices. As part of a coordinated approach to stakeholder outreach and collaboration, DOE is currently developing a draft *Transportation Planning Framework* to provide a template for future shipments of UNF from commercial reactors and is engaged with states and tribes and other stakeholders in discussions on the institutional and operational components of that Framework.

INTRODUCTION

This paper examines stakeholder and issue-focused approaches used by DOE programs in development of transportation practices to ship radioactive material, particularly UNF and TRU. Having an issue-focused approach can help all participants (including DOE) clarify the barriers, better understand each other's concerns, identify the decisions to be made about shipment practices, and better define each of the participants roles. The key stakeholders engaged include state and tribal government representatives, industry (utilities and cask developers, railroads and logistics providers), and local government officials. These stakeholders, particularly states and tribes, have a history with successful shipping programs, including the Waste Isolation Pilot Plant (WIPP) and the DOE Foreign Research Reactor Spent Nuclear Fuel Acceptance Program (FRR). In accordance with the Administration's *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste* (the Strategy) [1], the current effort by DOE to plan for the development of a future transportation system to ship UNF from commercial reactors, with an initial focus on shutdown reactors, is using approaches similar to those used in other successful shipping campaigns to collaborate with stakeholders about sustainable transportation practices. Effective stakeholder involvement processes lead to improved decisions, legitimizing the process or decision, and increasing the capacity of all parties for future understanding, deliberations and discussions, particularly in very technical or science-based programs.

DEPARTMENT OF ENERGY TRANSPORTATION STAKEHOLDER ENGAGEMENT

Waste Isolation Pilot Plant (WIPP)

The DOE WIPP transportation program emerged as a leader in development of collaborative processes with states and tribes to address issues of concern. Many institutional initiatives, such as collaboration with State Regional Groups, were utilized by WIPP. The State Regional Groups (SRGs) (the Western Governors' Association, the Council of State Governments, Midwest and Eastern Regional Office, and the Southern States Energy Board) were funded by WIPP to form committees to work with WIPP on transportation safety programs specific to the WIPP shipping campaign. Indian Tribes along the WIPP routes also were funded by WIPP and were provided information about the shipments.

Some of the initiatives hammered out over several years of study and deliberation with the states included “extra regulatory practices” such as the Commercial Vehicle Safety Alliance (CVSA) enhanced inspection program for truck shipments of SNF and Transuranic Waste. CVSA is an international association of state vehicle inspectors and their industry partners. In the United States, the CVSA has enforcement authority over DOT inspection criteria mandated for commercial trucks and vehicles. The goal of the program is to promote safety on the highways. Part of the CVSA program is a reciprocal inspection so that if a truck is inspected in one state, other states along the route will not require another inspection of the vehicle, signified by application of a decal on the truck. The initial CVSA plan was only to use the enhanced standards for critical items (more stringent inspection criteria) on UNF shipments, but WIPP agreed to allow their shipments to undergo the new inspection protocol and supported CVSA as it developed the program for “enhanced” inspections for vehicles carrying select radioactive materials shipments as defined by DOT’s regulations in 49 CFR § 173.403 and for transuranic waste. [2] Part of the enhanced inspection criteria was that a truck would not leave its origin site until it had passed the enhanced inspection and was found to be “defect free”. After years of data gathering on WIPP trucks and evaluation of the application of the inspection criteria, adjustments were made to the inspection protocols. The CVSA found one major need was to develop a training program for state inspectors in order to make the inspections more uniform across the states. In addition, WIPP required its drivers to attend the training so that communications between its drivers and state inspectors were improved and drivers understood the inspection features.

Other examples of agreements for the WIPP transportation safety program included more stringent driver qualifications that were negotiated with the states in order to mitigate operator error in truck shipments, one of the most prevalent causes of accidents. The requirements are part of the contractual requirements for carriers and once hired, drivers are required to meet or exceed licensing and training qualifications and to maintain good driving records. The contract also required drivers hired to undergo extra training, including defensive driving, adverse weather and mountain driving.

Another area of collaboration was development of a first responder training program for states and Indian Tribes impacted by WIPP shipments. The states participated in developing the curricula and DOE provided training to state trainers, who in turn conducted classes for their local police, fire and emergency responders. WIPP partnered with the states and Tribes in training first responders along the WIPP routes and provided technical assistance and outreach

activities. Emergency response exercises developed with states and Indian Tribes tested the training and planning for the shipments. As a result of the partnership with DOE, the states and Tribes were able to affirm that they were prepared for WIPP shipments.

Negotiations and agreements with the states on protocols for transportation operational practices, including communications, emergency preparedness training and route selection, among others, were ultimately captured in the DOE *TRU Waste Transportation Plan* [3] and the *WIPP Transportation Safety Program Implementation Guide* (Western Governors' Association 2009). [4] This was the first of several regional guides for DOE radioactive materials shipments developed by SRGs. The guides provided direction for states to follow in regard to their roles, responsibilities and agreements with DOE for TRU waste shipments.

Environmental Management Office of Packaging and Transportation

Based on successful protocols developed for WIPP, DOE developed guidance on transportation practices for all DOE programs shipping radioactive material, which is formalized in the *Radioactive Material Transportation Practices Manual*, DOE M 460.2-1A. [5] The Manual, which is associated with a transportation order, DOE Order 460.2A [6], was developed through a DOE-wide working group in coordination with a working group of states and tribes and describes standard transportation practices for use by all DOE programs in planning and executing offsite shipments of radioactive materials. The DOE Order is currently being updated with input from a working group of DOE's National Transportation Stakeholders' Forum (NTSF), a mechanism through which DOE communicates with states and tribes about the Department's radioactive material shipments. The NTSF has a charter and a planning committee which meets regularly by conference call to plan annual meetings and special workshops/webinars on topics of interest during the year. [7]

Foreign Research Reactor Spent Nuclear Fuel Acceptance Program

The Foreign Research Reactor Spent Fuel (FRR) shipping program is another DOE program frequently cited as carrying out effective collaboration with partners at the state and regional level to develop operational procedures and coordination for shipping SNF. The FRR program followed a similar approach as WIPP: convene states and other key parties (federal agencies, contractors and Tribes, as appropriate) through regional planning meetings; develop a transportation plan that integrated operations, requirements, and agreements into one document that became the "playbook" for a shipping campaign and spelled out the participants' roles and responsibilities. [8] The program was able to manage controversial issues with an eye to resolving them for safe and efficient transportation, even in the face of state lawsuits against the program.

One issue for the FRR program in the initial years was that a highway route identified by DOE for shipments was not the route the state wished DOE to use. The DOE worked with the state in question to show that the DOT highway routing regulations being followed by the program prevented the state from having to implement a formal alternative route designation process. In order to designate an alternative route, the state would have had to engage each local government along the route in a public process, which the state wished to avoid. DOE and state staff drove the primary and alternate legal routes as defined in the DOT routing rule, 49 CFR Part 397.101,

and evaluated which route would be compliant with DOT regulations. By jointly doing the assessment, all parties learned more about the routing process and could agree on the primary and alternate routes.

Nuclear Fuels Storage and Transportation Planning Project

The Blue Ribbon Commission on America's Nuclear Future (BRC) conducted a comprehensive review and recommended a plan of action for the management and disposal of the nation's used nuclear fuel and high-level radioactive waste. The BRC recommendations included implementing a flexible, integrated and phased waste management system, with a consent-based siting effort, in order to ensure safe and secure operations, gain trust among stakeholders, and adapt operations based on lessons learned. [9] The BRC recognized that early planning with state, tribal and local officials would be required for transportation arrangements to be in place prior to shipment and that a future program should build on the approaches used by successful shipping campaigns like WIPP and FRR. This approach was adopted by the Administration in its Strategy.

The Administration's Strategy recommends beginning to develop a transportation system focused on shipments from shutdown reactors to an interim storage facility with outreach and communication, route analysis, and emergency response planning activities consistent with existing Nuclear Waste Policy Act (NWPA) requirements being highlighted as initiatives to help establish a foundation for the transportation system. The Nuclear Fuels Storage and Transportation Planning Project (NFST), located within the Office of Nuclear Energy, is responsible for transportation planning. The major institutional initiatives of the NFST to develop a transportation system include completion of the policy to implement NWPA Section 180(c) for training public safety officials on safe routine transportation and emergency response procedures related to UNF, pursuing a systematic process for future routing, and work on resolution of issues to complete development of the Framework. Related stakeholder outreach efforts began in 2012 with funding provided for four state regional groups (SRGs), the Western Interstate Energy Board, the Midwest Regional Office and Northeastern Regional Offices of the Council of State Governments and the Southern States Energy Board. In 2013 a Tribal Caucus group supported through National Conference of State Legislatures (NCSL) was formed (NCSL has a long history of state-tribal relationship building in other areas).

A new forum, the Core Group, was established by NFST in 2012, and has been convened at least once a year since its inception. The Core Group serves as a de facto steering committee for institutional interactions and issue resolution with representation by staff from the SRGs and the chairs and co-chairs of their radioactive materials transportation committees and seven representatives of the Tribal Caucus and the NCSL and NFST staff. This smaller group, representing the SRG committees, allows DOE and the participants to identify issues of interest, set agendas for work throughout the year, and learn about NFST technical and institutional work underway that might be of interest to the whole of the SRG committees or tribal groups. Their current task is to develop a definition of consultation and outline a collaborative working process for the Core Group and NFST in its interactions with key stakeholders.

NFST also participates in the NTSF, which sponsors ad hoc working groups as part of its activities. A DOE program can be a participant in, or form, a working group on a specific topic, which is co-chaired by a state or regional group staff person and supported by DOE staff. Some working groups underway include the Ad Hoc Communications Working Group and NFST supported Ad Hoc Transportation Planning Working Group and the Section 180(c) Policy Working Group. A new Rail/Routing Working Group is being formed and will meet at the 2015 NTSF annual meeting.

As part of the process to identify future routes, a routing tool called the Stakeholder Tool for Assessing Radioactive Transportation (START) has been developed for DOE and the stakeholders to use to analyze routes locally, by state or nationally. The START model was presented at a meeting of the NTSF early in the developmental phases, and states and tribes were asked to provide detailed information not available in national data bases used in the START routing system. The SRGs and tribes have continued to participate in START development and have access to the system so they can conduct local or regional analyses as the routing process unfolds and to identify the needs for their states for a Section 180(c) policy implementation exercise to test features of the grant program, including allowable activities, the utility of a needs assessment and grant criteria. DOE is also discussing operational and routing issues with the railroads through the Association of American Railroads (AAR).

The processes used to communicate and collaborate in the Working Groups include developing a work plan with a schedule for milestones and accomplishments; webinars to discuss specific topics and work through agreements on language or specific sub-issues, such as the funding approach for 180(c) grants; face to face meetings of the working groups periodically as needed to work through specific issues; and the development of issue papers. The issue papers focus on particular transportation-related -issues. The papers help provide common terminology so that organizations and individuals who have different experiences or views can communicate with common understanding. Finally, the issue papers summarize the history of a topic, record decisions or resolutions and provide a record of the deliberations on the issue.

A draft National Transportation Plan, now called the Transportation Planning Framework has been coordinated with the Transportation Planning Group in webinar discussions, at SRG meetings, and at the NTSF. The Framework will capture resolved technical and institutional issues. Comments have been received from stakeholders on a first draft. The next step is to identify and prioritize issues still outstanding, develop issue papers on the priority or “key issues” and when the issues are resolved, integrate the results into the Framework document. Final decisions about logistics and transportation hardware have not been captured in the Framework, but as details become known about casks, railcar design, modal choice and specific routing approaches, the information and data will be incorporated into the Framework or in other planning documents.

CONCLUSION

Open and transparent outreach is needed in order to gain public acceptance for management of UNF and transportation, which has the potential to affect the largest number of people. The NFST project, through its collaboration and coordination with key stakeholders, is attempting to effectively meet the overarching goal of development of a safe, secure and publically acceptable

UNF transportation system by building on lessons from other DOE programs and observations from stakeholder engagement processes.

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