

## **A NATIONAL APPROACH TO TRANSPORTATION PLANNING THROUGH REGIONAL PROCESSES**

J. Holm

Office of National Transportation, Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
1000 Independence Ave., S.W., Washington, DC 20585

E. Saris, P. Austin

Science Applications International Corporation  
20201 Century Blvd., Germantown, MD 20874

J.J. Offner

Booz Allen Hamilton  
955 L'Enfant Plaza North, Washington, DC 20024

### **ABSTRACT**

The Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM) established the Office of National Transportation in 2003, recognizing the need to revitalize and accelerate development of the transportation system to serve the Yucca Mountain repository. The Department has committed work through a collaborative planning process before developing specific policies and procedures and making transportation decisions. OCRWM has begun to build the institutional framework to support development of this transportation system. Interactions with stakeholders have been initiated. The authors describe the key stakeholders, identified issues, regional and national planning activities, and mechanisms for interaction.

### **INTRODUCTION**

OCRWM's mission is to manage and dispose of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) in a manner that protects public health, safety, and the environment; enhances national and energy security; and merits public confidence. The OCRWM Office of National Transportation is responsible for designing and developing a safe, secure, and efficient transportation system to support waste acceptance and disposal. The Office of National Transportation is committed to working with interested parties in a collaborative process to build a transportation system that supports the OCRWM mission and effectively addresses the concerns of its stakeholders.

### **Transportation Institutional Program Development**

To lay the groundwork for collaborative development of the specific transportation system, in November 2003, OCRWM published the *Strategic Plan for the Safe Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste to Yucca Mountain: A Guide to Stakeholder Interactions* [1]. The *Plan* presents the Department's strategy and describes the process

OCRWM will use to work cooperatively with states, federally recognized tribes, local governments, utilities, the transportation industry, and other interested parties to refine the transportation system as it is developed.

The OCRWM Transportation Institutional Program consists of three components:

- **Regional planning activities** engage DOE with responsible parties to develop plans for transportation; expand operational capacities; enhance state, tribal, and local capabilities; and communicate with utilities and the public to prepare for shipments to the repository.
- **National level activities** involve a variety of national organizations and groups --participants with whom DOE communicates, exchanges information, and plans. These include Congress, other federal agencies, national special interest groups, and national labor organizations.
- **Nevada-specific activities** support and enhance existing interactions conducted by the Office of Repository Development (ORD). This includes working with the affected units of local government, coordination with the State of Nevada and its agencies, and working through public information and education programs already in place.

This paper will address the first two components of OCRWM's Transportation Institutional Program. OCRWM's Office of Repository Development (ORD) in Las Vegas has an established intergovernmental relations and outreach program with the State of Nevada and the Affected Units of Local Government (AULG). The AULG include Nye County, where Yucca Mountain is located, and the nine counties contiguous to it. As provided for in the Nuclear Waste Policy Act of 1982, as amended in 1987 (NWPAA) [2], Congress provides oversight funds to the State of Nevada and the AULG for oversight activities pursuant to the NWPAA. ORD also engages in an outreach program with the AULG, providing information and interactions regarding the repository, the Yucca Mountain site, the regulatory process, and the Transportation Program, including the proposed rail corridor within Nevada.

### Identified Issues

A number of transportation topics have been identified, and OCRWM will address these according to the general interests and responsibilities of the involved entities. All parties will have an opportunity to be informed and to comment on all facets of the transportation planning process. The key issues listed below are not all-inclusive. It is anticipated that new topics will arise over time as planning proceeds. OCRWM intends to address these and other issues through a collaborative planning and implementation process in preparing for shipments:

- Selection of transportation routes and modes
- Emergency response planning and training
- Safeguards and security
- Operational practices
- Communications and information access

- Casks for transportation
- Worker protection, training, training standards, and qualification

### **180(c) Grants and Policy Development**

Of the issues identified by stakeholders, of significant interest to states and tribes is development of a policy to implement Section 180(c) of the NWPA. Under Section 180(c), DOE is required to develop and implement a program of funding and technical assistance to train state, tribal and local public safety officials in safe routine transportation and emergency response procedures. States and tribes are eligible for assistance if DOE plans to ship spent nuclear fuel or high-level radioactive waste through their jurisdictions. The program covers all modes of transport and will be supported by the Nuclear Waste Fund. OCRWM will work with states and tribes to refine the approach for implementing Section 180(c) and to coordinate and integrate these activities with existing training programs designed for state, tribal, and local emergency responders.

A proposed 180(c) Policy and Procedures was published in the *Federal Register* on April 30, 1998. This notice reflected input from over 10 years of interactions with stakeholders. The Office of National Transportation renewed efforts to develop 180(c) policy and implementation procedures in early 2004. OCRWM has reviewed changes in emergency preparedness and funding since 1998, specifically looking at emergency preparedness grant programs initiated after September 11, 2001, including those from the Department of Homeland Security and grant consolidation efforts by the Federal Emergency Management Agency. OCRWM has also examined relevant DOE funding and emergency response training efforts.

### **OCRWM's Diverse Stakeholders**

While responsibility for developing a transportation system rests with OCRWM, a variety of agencies and governmental bodies, including states, tribes, and local governments, as well as the transportation and utility industries have responsibilities for aspects of the transportation system. The responsibility for enforcement of transportation safety programs and emergency preparedness is the province of federal, state and tribal agencies. Carriers are responsible for adhering to the Department of Transportation regulations, operating standards, and DOE's programmatic requirements during operations. Cask vendors are responsible for design and fabrication of shipping casks in compliance with Nuclear Regulatory Commission regulations. Utilities and generator sites are responsible for loading SNF and HLW into the transportation casks and preparing them for shipment.

While they do not have formal responsibilities like those of federal, state, and tribal governments, OCRWM recognizes that a wide spectrum of other stakeholders are interested in how the transportation system will be developed. Groups representing special interests, rate payers, labor organizations, and nonprofit organizations can serve an important role by articulating the views and concerns of their membership and helping guide the transportation program. OCRWM will participate in a variety of forums to address particular interests and stakeholder topics.

There will also be regular involvement, as appropriate, with other federal entities and advisory bodies, including the Nuclear Regulatory Commission, Department of Transportation, Department of Homeland Security, National Academy of Sciences, Surface Transportation Board, Department of Labor, and the Nuclear Waste Technical Review Board. Specific requirements, regulatory oversight, and cooperative activities such as cask safety, routing, emergency response, security planning, and communications will be addressed.

### **A Forum for Broad-Based Stakeholder Interactions**

One of the means of interaction with stakeholder groups and the general public will be through an already established, effective forum—the Transportation External Coordination Working Group (TEC). OCRWM co-chairs TEC with DOE's Environmental Management Program (EM). TEC provides an opportunity for broad-based input and information exchange from organizations representing the utility and transportation industries, state, tribal, and local governments, police, fire, and emergency management professional organizations, and labor unions.

TEC conducts planning research and provides its findings to DOE on specific issues through semi-annual TEC meetings, and through subject-specific topic group meetings which enable a small number of participants to focus intensively on key issues. There are four active topic groups:

- The Section 180(c) Topic Group is identifying issues and providing recommendations on the process for implementing the 180(c) grant program for state and local emergency response planning and training.
- The Tribal Issues Topic Group is working on developing approaches for tribal interactions during transportation planning and implementation.
- The Rail Topic Group has broadened its focus to identify routing issues for all modes and recommend route selection criteria.
- The Security Topic Group provides a forum for ongoing dialogue on the development of coordinated security plans and protocols.

OCRWM will work with local government representatives through TEC activities, relying on TEC members such as the National Association of Counties and National League of Cities to provide planning input from the local perspectives.

### **Regional Planning Activities**

The Office of National Transportation will implement its detailed planning activities through a regional planning and coordination process, which will encourage coordination among several key participants in the program. At the regional level, the specific role of states and tribes derives from their responsibility for public health and safety, environmental protection, regulation of hazardous materials transportation, and responsibility for communicating with the public in their jurisdictions. The Department has interacted frequently with these groups on other shipping programs, and has relied on them to provide consolidated state input on various topics and to assist with transportation planning.

State Regional Groups (SRG) will anchor the collaborative process with the states. OCRWM has executed cooperative agreements with the four state regional groups:

- Council of State Governments' (CSG) Northeast High-Level Radioactive Waste Transportation Task Force
- CSG's Midwestern Radioactive Materials Transportation Committee
- Southern States Energy Board's Radioactive Materials Transportation Committee
- Western Interstate Energy Board's High-Level Waste Committee

Cooperative planning with state regional groups has been underway for the last several years through the Waste Isolation Pilot Plant (WIPP) shipping program, the Foreign Research Reactor spent nuclear fuel acceptance program, and the Naval Reactors program. Stakeholders have participated in planning shipping campaigns and supporting reviews and analyses of various DOE documents. OCRWM has already initiated an expanded regional planning process, which is engaging the states through the four SRGs.

OCRWM has engaged the SRGs on the following issues, and new issues that may arise will also be addressed:

- Evaluate regional suites of routes for the shipments
- Develop policies and procedures for distributing Section 180(c) grants to states and tribes for planning and training
- Provide input on mutual transportation issues and draft OCRWM transportation plans
- Conduct special studies as identified by the states through their regional planning groups such as a feasibility study for using barges and a pilot project to enhance communications with state and local officials, and an analysis of DOE's procurement modeling process

The SRGs have been given access to DOE's routing analysis models including RADTRAN and TRAGIS. Training on the models was held in January to allow states to conduct their own route evaluations. Once route selection criteria have been agreed upon, states and tribes will perform their own assessments of possible routes and will identify regional suites to the Office of National Transportation.

### **Interactions with Federally-Recognized Tribes**

OCRWM will interact on a government-to-government basis with Federally-recognized Native American tribes, as described in the DOE American Indian and Alaskan Native Tribal Government Policy. OCRWM has identified about 40 Federally-recognized tribal nations located along or near potential rail and highway routes (i.e., within one-half mile). To engage

the tribes in the planning process, OCRWM will contact these tribal nations and extend an offer to meet on an individual basis. OCRWM will provide general information on the transportation and repository programs, current status, and routing process and will solicit input from the tribes on their potential roles in the planning process and in emergency response.

OCRWM will initiate more detailed planning discussions with the leadership or designated representatives of tribal nations who have expressed an interest in further involvement in transportation planning to:

- Determine and address their issues and concerns;
- Provide them an opportunity to identify alternative routes they would like considered in the planning process;
- Consult with them on developing 180(c) criteria and formulas;
- Assist them in preparing for the shipments in areas of transportation planning for safe, routine transportation and emergencies, and
- Develop public awareness and information programs.

In addition, OCRWM will continue to utilize the TEC Tribal Topic Group as a vehicle for determining and addressing tribal issues on a broader scale, and will work to increase the participation of tribal nations along shipment corridors.

OCRWM staff will coordinate with other DOE programs to elicit past history with individual tribal nations during planning for other DOE shipment programs (i.e., understand what their issues and concerns were, identify lessons learned, and identify any commitments made by DOE for those shipment campaigns). OCRWM will build upon existing relationships between DOE programs such as Environmental Management's Transportation Emergency Preparedness Program (TEPP) and tribal nations along WIPP shipping routes (i.e., the Navajo Nation, Pueblo of Acoma, and Laguna Pueblo) and other shipping campaigns (i.e., the Umatilla and Shoshone-Bannock).

### **National Planning Activities**

OCRWM will maintain a national planning effort, through which DOE exchanges information and develops plans with national organizations and groups, including Congress, other federal agencies, national special interest groups, and national labor organizations. The phases of the interactions will be timed to support the Office of National Transportation's operational and technical decisions. Participants in each phase and the amount of information DOE can share will depend on the participants' roles and responsibilities for ensuring safe, secure, and efficient transportation. For obvious security reasons, the more detailed the planning becomes, the fewer the number of participants will be that can share in the increased level of detail. Similarly, as the program approaches transportation operations, the number of participants engaged in detailed planning will be reduced to those states, tribes, and public safety officials along the routes, and other federal agencies which have legal access to the information. DOE will strive to consult

with and keep all interested stakeholders informed throughout the program, recognizing that, for security reasons, not all information can be shared with all stakeholders.

As the planning process moves forward, OCRWM-specific topics will be introduced to obtain state analyses and coordination, including reviewing analytical processes for identifying potential regional suites of routes and alternatives; training on risk assessment and routing tools; reviewing and developing the process to establish the NWP Section 180(c) funding requirements; participating on peer reviews for technical assessments, such as severe accident analyses; establishing a consistent security envelope for the OCRWM shipments; coordinating with utilities for training, educational, and outreach programs; participating in topic groups and other interactions of the TEC ; and coordinating issue resolution for notification and training with local jurisdictions. Products from the studies will feed into the OCRWM operational plans.

Increasingly, future activities will focus on training and operational readiness. Infrastructure planning with the U.S. Department of Transportation (DOT) and state highway departments will be initiated. Potentially affected states and tribes will need to establish the state training and inspection program activities through the NWP Section 180(c) funding, which necessitates close coordination with local public safety officials.

Another group supported by OCRWM through a cooperative agreement is the Commercial Vehicle Safety Alliance (CVSA). CVSA has already developed protocols for Highway Route Controlled Quantities of Radioactive Materials, and the organization will be involved in training inspectors and monitoring the truck inspection program.

Utilities will be involved in operational readiness reviews and responding to media inquiries as public attention focuses on specific shipments. OCRWM's other operationally focused work will include developing transportation campaign plans; conducting emergency and communications drills and exercises and associated information programs along routes; and participating in readiness reviews and road tests. These latter activities would be designed to support full readiness.

The electric utilities and DOE have negotiated waste acceptance contracts that stipulate DOE will take title to the SNF at the gates of reactor sites in return for a specified fee. Because more than 100 reactors will be involved, the technical interfaces of reactors of different designs, along with the shipping casks and related equipment that the OCRWM plans to procure, will necessitate substantial utility interactions during shipment scheduling and operations. OCRWM has already begun updating its data about the various operating capabilities at the reactors that are important to determine cask requirements and site service equipment needs. The data on transportation infrastructure in the vicinity of sites, which is needed to develop final transportation plans, will also be updated. This would also provide an opportunity to coordinate with state and local transportation departments and the rail industry in conjunction with utilities to identify local infrastructure upgrades. DOE would encourage DOT's consideration of state and local requests for funding to make necessary infrastructure upgrades. These interactions will occur early in the planning to establish shipping priorities and focus the regional planning participants' discussions on the first three years of shipments. Utilities also have robust planning and training with state and local officials for emergencies and DOE will work collaboratively with the utilities to identify elements of their capabilities that could also be used in the OCRWM program. The other major capability that could be coordinated among the utilities and the states

through the regional planning process is information and education programs to inform the public about spent fuel transportation.

When the regional suites of routes have been designated, OCRWM anticipates a much greater focus on local community outreach and will increase its communication efforts with interested local communities along transportation corridors, although OCRWM will still rely on the local government representatives of TEC for broad-ranging communications. OCRWM will begin the process of awarding, as appropriate, 180(c) grants for detailed transportation planning, training, and emergency preparedness, and public awareness and information.

In order to prepare for the more detailed interactions as operational plans are developed, OCRWM will take advantage of opportunities to disseminate information and educational materials through publications and newsletters of these local government representatives and will attend, where practical, various meetings and conferences of these groups, State Municipal Leagues, State Associations of Counties, and other venues that reach the targeted communities. OCRWM will also seek the assistance of the States and academic community, where practical, to help in local community outreach and education.

## CONCLUSIONS

OCRWM is building a foundation to resolve transportation issues and engage stakeholders based on a regional approach. OCRWM will also rely on relationships developed through TEC and past DOE shipping programs. OCRWM is early in the process, but establishing a collaborative process will be integral in implementing a transportation system that is safe and secure and merits public confidence.

## REFERENCES

1. United States. Department of Energy, Office of Civilian Radioactive Waste Management. *Strategic Plan for the Safe Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste to Yucca Mountain: A Guide to Stakeholder Interactions*; Washington, DC; November 18, 2003
2. Nuclear Waste Policy Act of 1982, 42 U.S.C. § 10101 et seq. (1982).