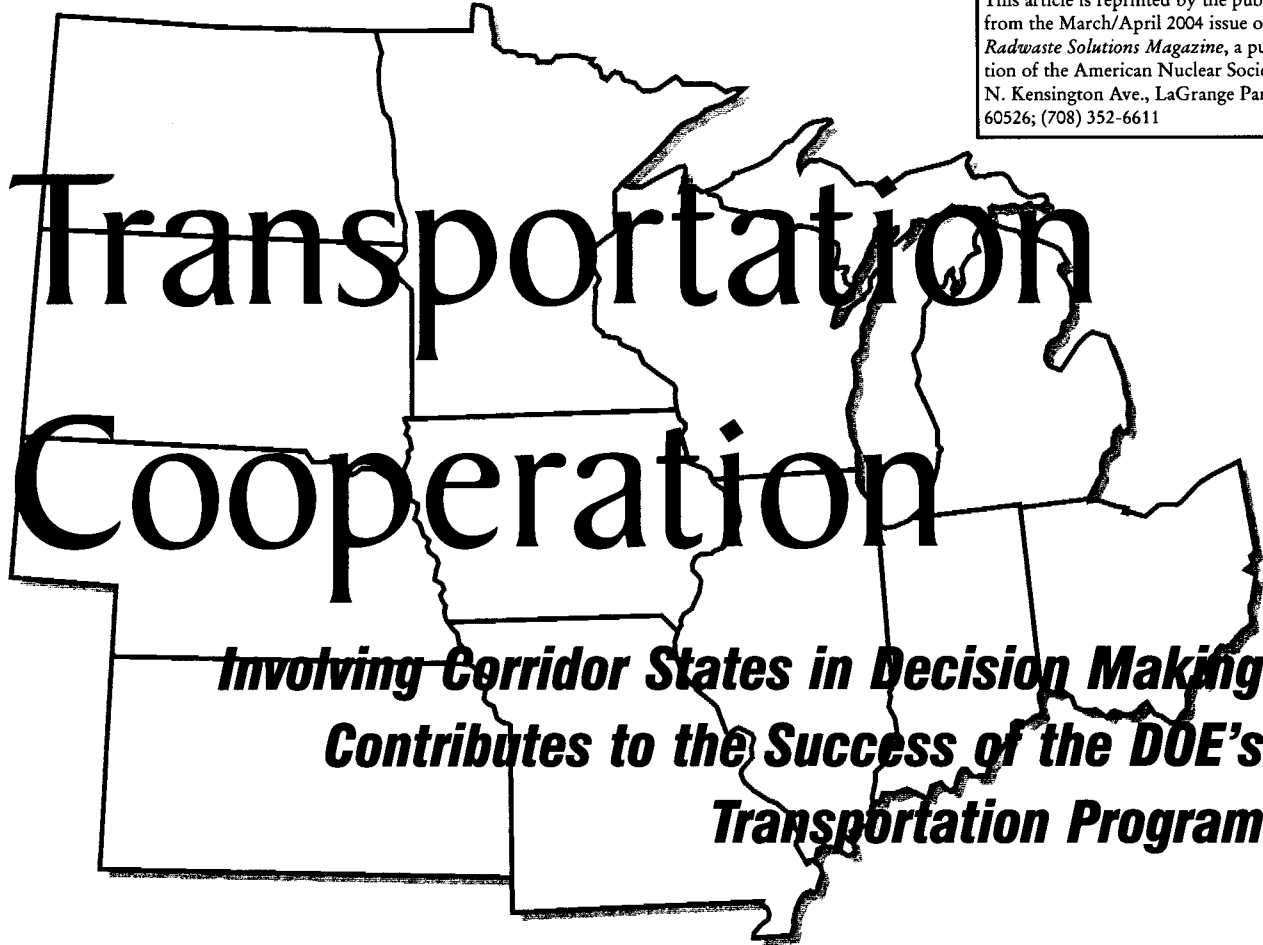


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Transportation Cooperation

*Involving Corridor States in Decision Making
Contributes to the Success of the DOE's
Transportation Program*

In the Midwest, a partnership between the states and the DOE shows how the right approach to transportation planning can get the job done.

By Lisa R. Sattler

When an issue is fraught with as much emotion and controversy as radioactive waste, one can expect discussions of the subject to be lively. It was not entirely surprising, therefore, that a U.S. Department of Energy meeting on transporting radioactive materials devolved into a heated shouting match between representatives of three major stakeholders in the Yucca Mountain repository debate: the state of Nevada, a major shipping contractor, and a nuclear industry trade association. The setting was a meeting of the DOE's Transportation External Coordination Working Group, a national forum cochaired by the DOE Office of Environmental Management (EM) and the Office of Civilian Radioactive Waste Management (OCRWM). At issue for the three attending entities was whether the DOE had demonstrated that it would be able to ship spent fuel to Yucca Mountain by rail.

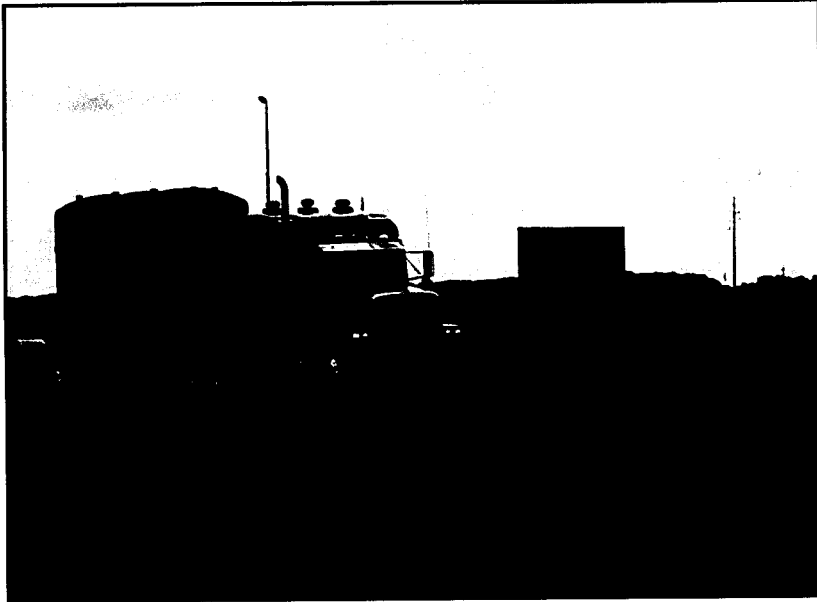
What stood out during the argument was the utter lack of a middle ground. On the one hand, the Nevada representative seriously questioned the DOE's ability to get waste to Yucca Mountain by rail. The industry folks countered with, "It's easy. We ship by rail all the time." Each

side staked out an extreme position without seeming to acknowledge the existence of a middle ground.

It is possible to move spent fuel safely to Yucca Mountain—perhaps even by rail—but it will not be the easy slam-dunk proposition that some folks would like to think. In the Midwest—the *literal* middle ground, so to speak—a partnership between the states and the DOE is demonstrating how the right approach to transportation planning can get the job done.

THE REGIONAL PLANNING PROCESS

The partnership between the Midwestern states and the DOE dates back to 1989, when The Council of State Governments' (CSG) Midwestern Office established the Midwestern High-Level Radioactive Waste Transportation Project through a cooperative agreement with OCRWM. The agreement was one of four that OCRWM established with regional groups of states. The purpose of the project in the Midwest was for the states to identify and resolve regional issues pertaining to shipments of high-level radioactive waste and commercial spent nuclear fuel. The



A shipment of contact-handled transuranic waste travels from the Missouri University Research Reactor to the DOE's Argonne National Laboratory-East near Chicago. (Photo courtesy of the Illinois Emergency Management Agency, Division of Nuclear Safety, 2003.)

ations Office. These programs and facilities have shipped radioactive waste through the Midwest by truck and by train, although the greatest number of shipments has traveled by truck.

Throughout all this planning, the Midwest has worked with the other regions to refine what is known as the "regional planning process," which all four regions have endorsed for large-scale shipping campaigns involving radioactive materials. The process works to get the states what they need to prepare for shipments—namely, good information, involvement in planning, and financial assistance. EM has followed this regional planning process with much success. In 2003, OCRWM reinstated its regional cooperative agreements and, with the publication of its Transportation Strategic Plan (see p. 18, this issue), signaled its intent to follow the regional model for planning shipments to the national repository.

Midwest, after all, will be affected by tens of thousands of repository shipments someday. OCRWM committed to working cooperatively with the states as it made decisions related to its transportation system.

The key component of the transportation project was the Midwestern High-Level Radioactive Waste Committee, a group of Midwestern state representatives selected by the Midwestern governors and state legislative leaders. Since 1990, the committee has met twice yearly with the DOE to exchange information, discuss and comment on the DOE's transportation-related policies and programs, and identify the region's recommended practices for shipping spent fuel and HLW.

In 1998, OCRWM put its transportation program on hold, in the process terminating the regional cooperative agreements in the Midwest and elsewhere. Fortunately, EM picked up the project to assist in planning and preparing for shipments that would result from the massive cleanup of former weapons production facilities. As a result of the switch, the Midwest expanded its scope of activities to include transuranic waste and other radioactive materials. The committee also changed its name—to the Midwestern Radioactive Materials Transportation Committee—to more accurately reflect the new, expanded focus.

Under the agreement with EM, several corridor states in the Midwest have worked with the DOE to plan shipments of spent nuclear fuel as well as transuranic waste headed for the Waste Isolation Pilot Plant (WIPP) and other sites. The states have had experience working with various DOE programs and facilities, including the Foreign Research Reactor Acceptance Program, WIPP, the West Valley Demonstration Project, and the Oak Ridge Oper-

WHAT, WHEN, AND WHERE

The states need to receive accurate, complete information on shipping campaigns with appropriate lead times. They need to know *what* the DOE will be shipping, *when*, and *where*. There are practical and political reasons for having this information. On the political side, no one wants to be surprised by shipments. Knowing what will be moving gives the state personnel on the front lines the

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opportunity to brief their governors and other state and local officials. Although security considerations prevent the widespread sharing of very detailed information, experience in the Midwest has been that general briefings of important officials can go a long way toward avoiding the kind of surprises that often erupt into controversy.

The practical purpose in providing information to the states is to help them plan ahead for emergency responder or hospital training, if necessary, as well as arranging for personnel to inspect, escort, and track the shipments. With the limited number of shipments taking place today, train-

ing is perhaps the only long-term planning activity, that is, requiring lead times of at least one year. The other activities can be handled much closer to the actual shipping date, often around one month out. For a program the size of OCRWM's, however, the more heavily impacted states will

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undoubtedly need to dedicate staff to inspections, escorts, shipment tracking, and even public information. As a result, these activities will eventually factor into both long- and short-term planning.

At the Midwestern regional meetings, the DOE has an opportunity to brief states on upcoming shipments well in advance. For the Midwestern states, the standard was set by the foreign research reactor program, which began meeting with the Midwestern corridor states a full two years prior to the commencement of cross-country shipments of spent fuel. Such advance lead time gave the states ample time to assess their needs, conduct training, and ensure that personnel were available to track, inspect, and escort the shipments as necessary.

INVOLVEMENT IN PLANNING

The states need to be involved in planning the shipments that will affect them. As Rick Fawcett and George Kramer noted in their article in the March/April 2003 *Radwaste Solutions* ("Consent versus Consensus: Stakeholder Involvement in the Identification of Necessary and Sufficient Transportation Safety Requirements"), the DOE has worked with stakeholders to identify what the authors term the "derived transportation safety requirements," in other words, the "necessary and sufficient" requirements for safe transport.

For the EM shipments, individual DOE programs initially worked with each affected region to define these requirements. In 2002, in an effort to reduce duplication of effort and bring consistency to the department's shipping practices, the DOE published its *Radioactive Material Transportation Practices* manual (DOE M 460.2-1), which established departmental policy on transporting most radioactive materials. The Midwestern states had significant input into developing both the individual transportation plans and the DOE manual.

The Midwest produced its own complement to the DOE manual with the publication of CSG's *Planning Guide for Shipments of Radioactive Materials Through the Midwestern States*. The planning guide lays out for shippers of spent fuel, HLW, and transuranic waste exactly how the Mid-

western states prefer to see these shipments conducted.

The DOE manual and the Midwestern planning guide both cover a number of different topics. Based on the Midwest's past experiences and looking ahead to the challenges facing the Civilian Radioactive Waste Management System, there are four primary issues on which OCRWM should initially focus: route selection, inspections, security, and emergency planning and training.

Route Selection

One of the major concerns for the states is the selection of routes. The Midwestern states believe that for a program as complex and large in scope as OCRWM's, a publicly acceptable approach would be to have the DOE select the routes in con-

sultation with the carrier and the affected states. One advantage to such an approach is that it would ensure that routes are selected with input from those who best know the local infrastructure and other conditions. In addition, by establishing a set of routes to be used, the states and the DOE will be better able to target the scarce resources available for emergency planning and other shipment-related activities.

At the states' urging, OCRWM's original draft strategy for acquiring transportation services stated that the DOE would be responsible for consulting with stakeholders on route selection and for approving the final routes. Although OCRWM no longer intends to pursue the overall acquisition strategy, the DOE manual cites this route-selection process as the protocol OCRWM will follow. The states will expect any new acquisition strategy OCRWM develops to incorporate this route-selection process for both highway and rail routes.

Inspections

For the Midwestern states, one of the most important lessons learned from past shipments is the need for close coordination between the DOE and the states on the standards to which shipments will be inspected, where inspections will take place, and when. The states have no desire to see every shipment stop at every state border. On the contrary, the states prefer to see shipments proceed without any unnecessary delays. It is reasonable, however, to expect a cross-country shipment to undergo periodic inspections. OCRWM must work with the states to decide how best to incorporate routine state inspections into the shipping plans.

For the highway mode, arranging for and conducting inspections is a fairly straightforward process, one that has increasingly become routine. For the dozen or so shipments taking place yearly, the states have so far been able to manage the load. In the future, however, the states that routinely conduct radiological and vehicle inspections (e.g., Illinois) will need to deploy additional resources to cover the large number of shipments expected to be on the road each week.

Inspecting rail shipments is another matter entirely. Whereas the interstate system of highways is owned and maintained by the government, the rail infrastructure is privately owned. Railroads also operate under a different business model than do trucking companies. As a result, they have been reluctant to accommodate measures that could potentially affect their bottom line.

State preferences with regard to en route inspection points is one such measure. In 2003, for example, two states were left with no choice but to inspect the West Valley spent fuel shipment in yet a third state. The states agreed to this arrangement only because of the "one-time" nature of the shipment. Such an arrangement will not work for OCRWM's shipments. The states do not necessarily expect trains to stop at state borders. They do, however, expect to conduct inspections in locations that are

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close to home and, therefore, more in keeping with the goals of state policies on en route inspections.

In addition, while the rail industry does invest significant time and resources into its own inspections, no external standard exists such as the Commercial Vehicle Safety Alliance's Level VI inspection and out-of-service criteria for highway route-controlled quantity shipments. Although the states can inspect shipments under the aegis of the Federal Railroad Administration's State Rail Safety Participation Program, few states in the Midwest have been able to take advantage of this opportunity. The DOE made special arrangements for the states to inspect the single shipment from West Valley. Given the thousands of rail shipments contemplated for the OCRWM program, the DOE, the states, and the railroads must work together to formulate a strategy for ensuring that states will be able to inspect shipments en route, if they so choose.

Security

The states need to be involved in security planning. In 2003, the DOE rewrote the original transportation plan for West Valley (drafted in 2001) to transfer most of the useful information to the security plan for the shipment—a move that the Midwestern states unanimously agreed was unnecessary and counterproductive. There is certainly a need to enhance security measures for shipments, and that begins with being more cognizant of all the possible threats in a post-9/11 world. The Midwestern states feel strongly that keeping the corridor states informed and involving them in planning and executing shipments is vital for achieving this goal.

It should be noted that more than two years after the terrorist attacks, the states and the federal government are still feeling their way on the issue of shipment security. The U.S. Nuclear Regulatory Commission has augmented its

physical protection requirements for spent fuel shipments. Within the DOE, EM has begun gradually to change its own approach to shipment security. Nevertheless, there is still much work to be done, and it must be done through a coordinated effort involving the Department of Homeland Security, the DOE, and other affected agencies. The states should be involved in these discussions so that the outcome will strike the right balance between planning cooperatively and ensuring homeland security.

Emergency Planning and Training

Selecting the best routes, arranging for safety inspections, and ensuring shipment security can do much to reduce the risk of accidents occurring. Nevertheless, there will be accidents and the states need to be prepared for all possibilities.

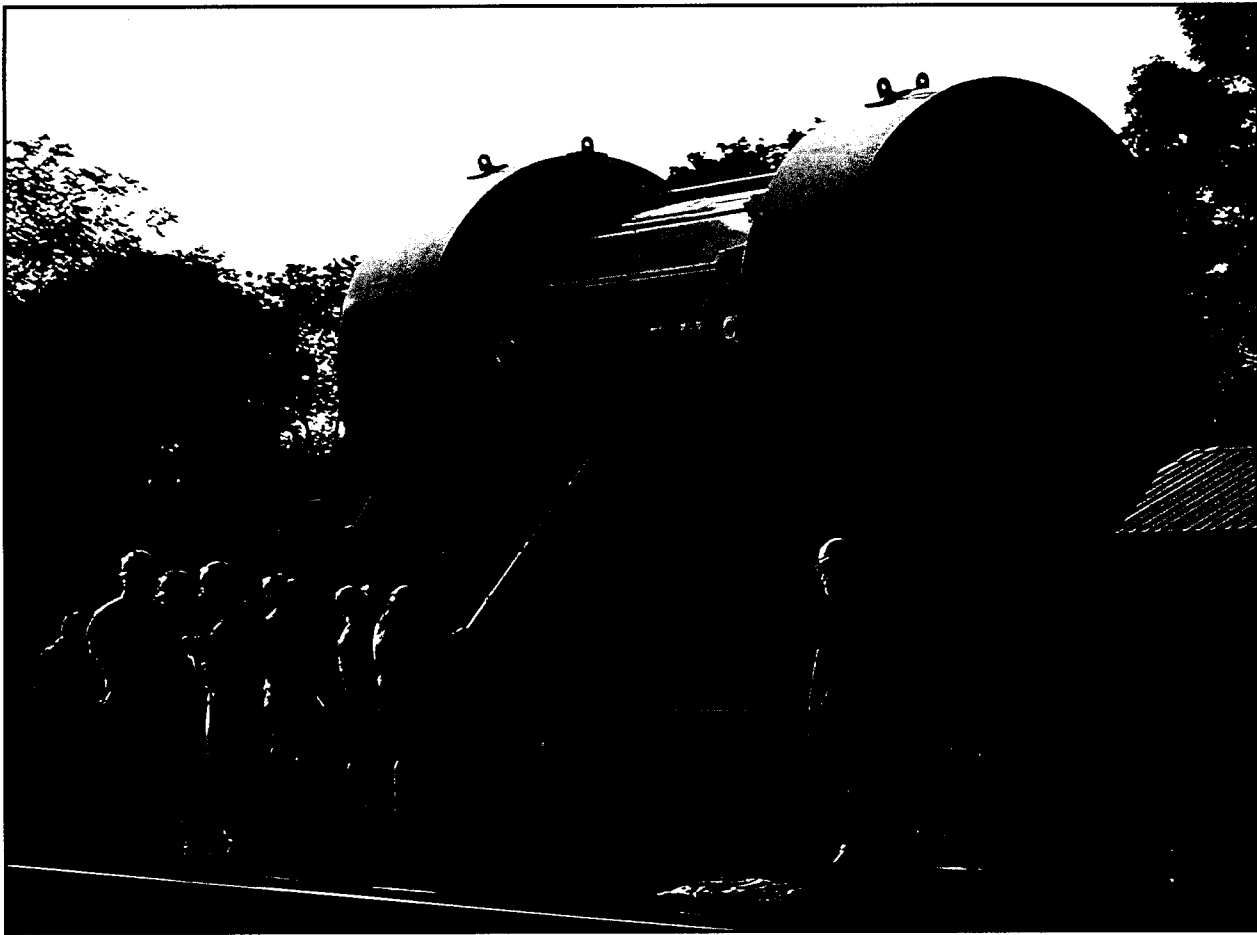
Emergency planning and training are vital elements to the success of the DOE's transportation programs. The DOE has developed a training curriculum—the Modular Emergency Response Radiological Transportation Training (MERRTT)—which is managed by the Transportation Emergency Preparedness Program in each DOE region. As with so many of its successful transportation initiatives, the DOE developed this curriculum in consultation and cooperation with the states. The MERRTT modules are highly regarded, and many states have incorporated the training into their all-hazards curriculum.

As noted earlier, one of the states' greatest needs with regard to training is sufficient lead time. State budgets commonly run on a two-year cycle, which translates into a need for advance shipment information *at least* two years in advance. The states have managed to make do with shorter lead times for small-scale shipping campaigns such as the EM spent fuel shipments. Large-scale programs such as OCRWM's will necessitate much greater lead times.

FINANCIAL ASSISTANCE

Being an active participant in planning takes time, and time, of course, is money. Training responders, conducting outreach, and tracking, inspecting, and escorting shipments will require a significant commitment of resources. The question arises, therefore, as to *whose* resources.

Since 1999, the DOE has aided the states in the Midwest by training emergency responders and hospitals in connection with its shipments of transuranic waste, spent fuel, depleted uranium hexafluoride, and even low-level radioactive waste. In addition to making this training available, the DOE has provided the states with funding to defray their own costs for training and other activities, such as purchasing equipment, preparing information materials for the public and select officials, and attending regional meetings and shipment-planning meetings. Given the severely constrained fiscal conditions in the Midwestern states, it would have been impossible for them to conduct their training or to have any meaningful involve-



State personnel inspect the rail shipment of spent nuclear fuel that traveled from West Valley N.Y., to the Idaho National Engineering and Environmental Laboratory. (Photo courtesy of the Indiana State Emergency Management Agency, 2003.)

ment in planning shipments without the DOE's support for these activities.

Through the regional cooperative agreement with EM and OCRWM, the Midwestern states will continue to have access to the planning process. To fund training and related activities—particularly in connection with the OCRWM shipments—the states will need funding on a larger scale. Fortunately, in the Nuclear Waste Policy Act, Congress recognized the value of having well-trained and -equipped emergency responders and other personnel along the shipping routes to the repository. In Sec. 180(c) of the act, Congress mandated that the DOE provide financial and technical assistance to states and tribes along the shipping corridors. In the 1990s, OCRWM developed its draft policy and procedures for implementing this assistance, with input from the Midwest and the other regions.

The DOE published the draft policy and procedures in 1998. Although the draft did reflect some input from the states, it fell far short of garnering the states' full support. Moreover, in 1998, only a limited number of states in the West and the South had received financial assistance from the DOE, mostly in connection with the WIPP shipments. WIPP did not begin shipping until 1999, so at the time OCRWM published its draft, virtually no state had experience with a DOE-managed, multiyear transportation program requiring training along the routes. Many states have since gained a great deal of experience. OCRWM would do well to tap that resource by reissuing the draft policy for another round of public comments prior to finalizing the document.

A DAUNTING TASK

The task OCRWM has is a daunting one: to solve a national problem that is 60 years in the making, exceedingly political, and—to many Americans—not only mind-boggling but also downright scary. As part of this mission, OCRWM has committed to developing a transportation program that is safe, secure, efficient, and has the public's confidence. Based on the experiences of and the precedents set for the DOE's EM shipments, the only way OCRWM can accomplish this goal is through a long-term commitment to sustained, meaningful cooperation with the corridor states as partners in planning and executing shipments. The Midwest and the other regions have endorsed the regional process as their preferred approach for the Civilian Radioactive Waste Management System. With such strong backing from the states and a proven record of success, the regional planning process truly is OCRWM's best bet for success. ■

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