Stateline Midwest

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A truck carrying spent nuclear fuel from a foreign research reactor travels along a highway. More shipments of this highly radioactive waste in the Midwest are expected in the future. In preparation for shipments to be made to a permanent geological repository in Yucca Mountain, Nevada, Midwestern officials are working to select a suite of highway and rail routes to transport the spent nuclear fuel through this region. (photo: U.S. Department of Energy)

Inside

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Coverage of the 60th Annual Meeting of the Midwestern Legislative Conference

Road to Yucca

Region mulls best routes to send spent nuclear fuel to Nevada

by Sarah Wochos

Shipments of spent nuclear fuel to a permanent geological repository in Yucca Mountain, Nevada, are at least seven years away.

But in the Midwest, through which many of those future U.S. Department of Energy shipments eventually will pass, planning already has begun.

"It is extremely important for the states to exchange information and develop a coordinated effort in negotiating the safe and reliable shipping of spent fuel through our states," says Iowa Rep. Jeff Elgin, a Republican from Cedar Rapids. For that reason, he and other state officials from the region have been meeting regularly as part of The Council of State Governments' Midwestern Radioactive Materials Transportation Committee.

A work group of the committee recently completed the initial phase of a landmark project — to identify rail and highway routes for transporting radioactive fuel from nuclear power plants in the Midwest to Yucca Mountain.

This route identification project is the first of its kind in the country. The committee's hope is that its selection of routes ultimately will influence the DOE when the federal agency makes decisions on how to transport the highly radioactive waste from plants around the country.

Tim Runyon of the Illinois Emergency Management Agency says strong state participation in the process is vital.

"States have the responsibility for responding to incidents or accidents involving the [radioactive] shipments," notes Runyon, a member of the CSG committee, adding that state involvement in route selection is needed to minimize the shipments' impact on the region's residents.

Route to a regional road map

The 12-state Midwestern Radioactive Materials Transportation Committee is the result of an ongoing cooperative agreement between the DOE and CSG Midwest. In addition to serving as the regional forum for discussion on radioactive materials transportation, the committee allows Midwestern states to form positions on important transportation issues.

With that in mind, the group decided to pursue a route identification project at its spring 2004 meeting in Topeka, Kan.

The goal of the initiative is to develop a suite of highway and rail routes in the region that the Midwestern states would find acceptable. Committee members will present recommendations to the DOE at the end of 2005, in advance of the agency's final route decision-making process.

A suite of routes, as opposed to one route from each reactor, provides variety, which in turn allows for greater security, Runyon says.

"For security reasons, DOE will likely want more than one option for transporting through a region," he says. "With the evolution of regional or industry-specific changes in threat levels, it may become necessary to avoid a specific urban area or industrial zone. A suite of routes allows that flexibility."

To complete the task effectively and efficiently, the committee delegated the project to a smaller route-identification work group made up of committee members as well as other state transportation and nuclear safety experts. One of the work group's first tasks was determining how to evaluate and compare potential routes.

It decided to use a set of three primary factors

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CSG work group evaluating potential Yucca Mountain routes

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that already had been developed by the U.S. Department of Transportation.

• risk to the public during normal transport;

• risk to the public in the case of an accidental release; and

• economic risk to the land and environment in the case of an accidental release.

"The DOT guidelines govern shipments of radioactive waste, [so they were] a reasonable starting point for our discussions," says work group member Jane Beetem of the Missouri Department of Natural Resources.

Data used in the formulas for these factors include the length of the route, population along the route, accident rates and traffic counts.

With slight modification, the work group elected to use the three DOT factors for both potential highway and rail routes. This was a significant decision, because it assumes that measures of risk for highway transport are also appropriate for rail.

"In comparing highway and rail modes of transportation," Beetem says, "the goal of minimizing risk to the public involves the same issues: minimizing travel through densely populated areas and avoiding accident-prone areas."

In the event that routes come out equal after the primary-factor analysis, the committee also developed a set of four secondary factors: an evaluation of urban areas traversed, accident rates, road or track quality, and traffic density.

The choice of these secondary factors (some of which are part of the formula used for primary-factor analysis as well) represents what the work group believes is most important to Midwestern states when considering potential routes.

Once the comparison factors were finalized, the work group began its analysis. Potential routes were generated using the DOE's Transportation Routing Analysis Geographic Information System. Route data were collected from a variety of sources, including state departments of transportation, the Federal Railroad Administration, the Federal Highway Administration and the U.S. Geological Survey.

Next steps

The route identification work group met in Chicago in June to discuss the initial comparison results. Members found that while the factors worked, and routes with smaller populations and fewer accidents came out ahead, data and formulas alone cannot determine the final results. The initial stage has helped narrow the list of potential routes, but other qualitative factors now need to be addressed.

"The process thus far has not considered operational needs or constraints or more dynamic issues like local construction, regional homeland security threat levels, etc.," Runyon explains. Some common-sense considerations, based on transport carriers' perspectives and state officials' expertise, must be discussed and evaluated before the work group finalizes the suite of routes.

The project's next step will involve consultations with railroads, utilities and other interested parties. In particular, the railroads will play an important part, as the work group will look to their experience in transport to narrow the list of potential rail routes.

In the coming months, the work group will offer the benefit of its experience in this pioneering effort to other regions interested in pursuing route identification projects of their own. The Midwestern initiative's ultimate goal, however, is to influence the DOE in the final selection of routes.

"We hope that DOE uses the work done by the routing group and doesn't reinvent the wheel," Runyon says.

In 2006, the federal agency will begin its national route-selection project. The Midwestern CSG committee will not only participate, but also hopes its work group's experience will guide the DOE project.

CSG committee hears from work groups, DOE at May meeting

At its spring meeting May 24 and 25 in Traverse City, Mich., The Council of State Governments' Midwestern Radioactive Materials Transportation Committee addressed several issues related to future U.S. Department of Energy shipments of spent nuclear fuel to a national repository.

Several work groups, including one focusing on route identification (see article), provided the committee with progress reports.

The Protocols Work Group is nearing the final stages of its work with the other regions to recommend changes to the DOE's transportation-practices manual as it applies to the repository shipments. The Section 180(c) Work Group also is approaching a major milestone in its project, which is to assist the federal agency in developing a program for providing financial assistance to states and tribal governments along the shipping routes. In late July, the national group that has been working on this project was expected to finalize its recommendations and present them to federal officials. Later this year, the DOE will publish its proposed policy and procedures in the *Federal Register* for public comment.

In addition to hearing from the work groups, committee members also had discussions with the DOE about plans to ship transuranic waste, spent nuclear fuel and low-level radioactive waste through the region. This summer will be a busy one for the Midwest, with the DOE either beginning or continuing seven different shipping campaigns that affect the region.

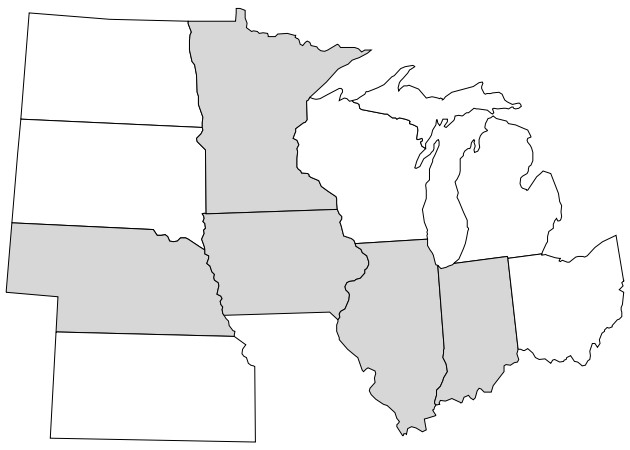
The committee's next meeting will take place Oct. 25-26 in East Lansing, Mich. It also is planning to host a tour of Yucca Mountain for state government officials.

For more information, contact Lisa R. Sattler at 920/803-9976 or *lsattler@csg.org*.

5 Midwestern states charge fees for highly radioactive shipments

With the transport of highly radioactive waste in the region expected to increase in the future, several states have considered enacting fees to help cover the costs of these shipments.

Through either statute or administrative rule, five Midwestern states have such fees in place.



Shipment fee for highly radioactive waste

• Illinois charges $4,500 for each initial rail cask and $3,000 for additional casks. A fee of $2,500 is levied for each truck shipment (plus an additional $25 for every mile over 250 miles). The money is put into a fund used to cover state expenses for inspecting and escorting shipments of radioactive materials and waste.

• Indiana charges a fee of $1,000 per cask. Funds are deposited into a fund used "to provide appropriate education, training and equipment to emergency responders and counties that will be affected."

• Iowa's fee is $1,300 for each initial rail cask, $125 for each additional cask, and $1,800 for each truck shipment (plus an additional $20 for every mile over 250 miles). Funds are used to pay for various emergency-response needs.

• Minnesota charges a $1,000, per-shipment fee. Money goes into the state's general fund.

• Nebraska's shipment fee is $2,000 per cask. Funds can be used to pay for inspections and escorts, emergency-response training, the purchase of necessary equipment and administrative costs.