

Tri-Regional Meeting of the Radioactive Materials Transportation Committees



October 23-24, 2001
Orlando, Florida

On October 23-24, 2001, representatives of 37 states met in Orlando to exchange information with regard to the transport of radioactive materials and to identify areas of common interest and concern. The Tri-Regional Meeting of the Radioactive Materials Transportation Committees brought together representatives of the following regional committees: the Council of State Governments' (CSG) Midwestern High-Level Radioactive Waste Committee, CSG's Northeast High-Level Radioactive Waste Transportation Task Force, the Southern States Energy Board's (SSEB) Transuranic Waste Transportation Working Group, and SSEB's Radioactive Materials Transportation Committee. The committees and the meeting itself were sponsored by the U.S. Department of Energy (DOE) through cooperative agreements with CSG and SSEB. This meeting summary highlights some of the key points raised during the presentations and discussions in Orlando.

Opening Remarks from the Three Regions

Southern Successes

As Chair of the SSEB Transuranic Waste Transportation Working Group, Sandra Threatt of South Carolina had the honor of welcoming the assembled delegates to Orlando. Ms. Threatt noted the successes that the Southern states had in working with DOE's Carlsbad Field Office (CBFO) to plan shipments of transuranic waste from the Department's Savannah River Site in South Carolina to the Waste Isolation Pilot Plant (WIPP) in New Mexico. After 12 years of cooperative planning between DOE, the corridor states, and SSEB, shipments had finally begun in May 2001. In the immediate aftermath of the September 11 attacks, DOE temporarily suspended all of the Department's radioactive materials shipments, including those to WIPP. Shortly afterwards, however, the Department relaxed the suspension, allowing shipments to be made on an "exception" basis. As a result, DOE had managed to make several shipments from Savannah River to WIPP since September 11.

Ms. Threatt emphasized the importance of state public information activities. She strongly recommended that the state representatives

review the public information materials they produce and, when possible, take advantage of the fact sheets DOE publishes. She also urged the committee members to coordinate with the public information officers of the states' health and safety agencies, since these people are "the professionals" when it comes to handling media inquiries.

Expressing her gratitude for the work of the SSEB staff, Ms. Threatt noted that the regional cooperative agreements with DOE enable the states to tap into information that otherwise would not be accessible to them. With the support of the regional staff, the states are able

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Opening Remarks from the Three Regions

to find out what other states are doing within the region as well as throughout the nation. She applauded DOE for its support of the cooperative agreements, and thanked the Department for “letting us all come together” in Orlando.

Training Focus in the Northeast

Speaking on behalf of the CSG Northeast High-Level Radioactive Waste Transportation Task Force, Dr. Edward Wilds of Connecticut said that, in recent years, the Northeastern states have worked on several shipping campaigns, including the shipment of two steam generators by barge from the Connecticut Yankee Nuclear Plant. Spent fuel shipments from the Massachusetts Institute of Technology and from Canada into the U.S. continue to be of interest to the states in the region. Like the steam generators, much of the materials that pass through or emerge in the Northeast are the result of decommissioning of commercial and research nuclear reactors.

According to Dr. Wilds, the Northeast has been very active in re-certifying emergency responders given the events of September 11. He said the states are busy “making sure everyone remains qualified” to respond to accidents involving radioactive materials. Training of hospital personnel is particularly important. Dr. Wilds noted that the Northeastern states have devoted a great deal of their terrorism planning and resources to the terrorist attacks in New York and Pennsylvania and the subsequent anthrax outbreak.

Related to all the training, the Northeastern states have also conducted a number of exercises. Five major exercises have taken place since 1999, including “Vigilant Lion” in

Pennsylvania and “RODEO.” The next major event on the horizon will take place in Connecticut in 2002.

Dr. Wilds noted that the states in the Northeast are increasingly turning to the materials and training available through DOE’s Transportation Emergency Preparedness Program (TEPP). He praised the program, and noted that Connecticut is using the TEPP materials to conduct hazard assessments for all nuclear facilities, not just DOE facilities. The

Radiological Assistance Program team stationed at Brookhaven has been particularly helpful to the states in the region.

The Northeast is home to one of the few remaining interstate

committees that address radiological health.

The New England Radiological Health Committee includes representatives of the radiological health agencies in all the New England states. Dr. Wilds said the committee would take a look at transportation of radioactive materials at its next meeting, scheduled for November.

Midwest Urges Cooperation, Consolidation

The Midwestern region has gained a great deal of experience with DOE’s radioactive materials shipments, according to Kansas’s Frank Moussa, Chair of the CSG Midwestern High-Level Radioactive Waste Committee. In the past two years, the Midwestern committee and the CSG staff have worked with several DOE programs to plan shipments of spent fuel and transuranic waste, both by rail and by truck.

Mr. Moussa highlighted the importance of following a “cooperative approach” to shipment planning. He noted that the states cannot adequately protect the health and safety of the public without the resources made

“We simply *cannot* continue to do business as usual.”

— *Frank Moussa, Kansas*

available by cooperative planning — including information, access to training, equipment, and, occasionally, financial assistance. State personnel are also the experts on local conditions such as the transportation infrastructure within a state and emergency response assets and capabilities along routes. Furthermore, because the general public is afraid of radioactive materials, the involvement of the corridor states reduces the likelihood of effective public opposition to shipments. In this regard, cooperating with the states in planning shipments is vital to DOE's success as a shipper of radioactive materials.

Noting the tragic events of September 11, Mr. Moussa said, "We [the states] simply cannot continue to do business as usual." He urged DOE to work with the states "to strike a balance between planning cooperatively and ensuring homeland security."

Well before September 11, the Midwestern committee had begun to look at ways to bring greater efficiency to the transportation planning process. According to Mr. Moussa, the states strongly support the preservation of the regional cooperative agreements with organizations such as CSG. In addition, following DOE's development of standard transportation protocols, there were further

efficiencies to be gained by standardizing transportation plans and associated documents, such as public information materials.

The Midwestern region is endeavoring to standardize its own approach to transportation by creating a planning guide for shippers. The guide will identify the region's recommended practices for shipments of radioactive materials through the Midwest. Mr. Moussa said the planning guide will cover shipments of spent fuel, high-level radioactive waste, and transuranic waste by rail and by highway. It is intended as a resource for both DOE and private shippers.

Mr. Moussa expressed the region's support for the concept of consolidated funding. He said the Midwestern states not only support the concept, but they are eager to see DOE pilot test the grants program in close consultation with the states and tribes.

Mr. Moussa closed with a challenge to the state and federal representatives. He urged the audience to think beyond their own programs, budgets, and borders, and "instead focus on what the state and federal governments can do, as a collective, to continue to ensure the safe and uneventful movement of radioactive materials in this country."

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For more information, please contact the staff person from your region.

System-Wide Integration in the 21st Century

Providing the keynote address at the Tri-Regional Radioactive Materials Transportation Committee Meeting was David Huizenga, Deputy Assistant Secretary for Integration and Disposition within the U.S. Department of Energy's Office of Environmental Management (EM). The function of the Office of Integration and Disposition is to assist EM's site closure and project completion missions. This task is performed by facilitating the disposition of waste and materials, developing common applications to address multiple site problems, and by sharing data analyses and lessons learned.

Mr. Huizenga reiterated that EM wanted to adhere to the commitments that were made to states regarding clean-up activities. Furthermore, he stated that Congress strongly urged DOE to address closure issues, especially at small sites like Mound and Fernald in Ohio. He noted that the planned shipment of spent fuel from West Valley in New York had been postponed in part due to prior commitments DOE had made with the receiving site, the Idaho National Engineering and Environmental Laboratory. In 2002, DOE would once again attempt to move the spent fuel out of West Valley.

Mr. Huizenga discussed the organizational chart of the Office and Integration and Disposition. He noted that the mission of the Office is carried out across the DOE complex. The Nuclear Materials and Spent Nuclear Fuel Office, for example, is seeking to procure 110 casks for transportation purposes. Mr.

Huizenga also reviewed the campaign that involved the successful shipment of transuranic waste from Mound to the Savannah River Site by rail. The shipment was conducted by rail due to the use of the OHOX railcar, which was certified for this special intersite transport of transuranic (TRU) waste. Mr. Huizenga mentioned that a future intersite transfer from the Battelle facility in Ohio would send 25 cubic meters of remote-handled TRU waste to another DOE site as early as FY 2003.

Mr. Huizenga discussed several transportation-based initiatives that the Office of Environmental Management is implementing or exploring. The Transportation Forecast Report provides an overview of anticipated

As part of the cleanup of the Battelle facility near Columbus, Ohio, DOE will use the CNS 10-160B container to transport remote-handled transuranic waste.

Photo courtesy of James Eide, Battelle.



DOE shipping campaigns. The latest edition of the Forecast report includes the number and schedule of truck and rail shipments, analysis of changes to the FY00 Baseline report, and the barriers that must be bridged for implementation.

In addition, Mr. Huizenga noted that DOE has contracted a team of consultants to review the

process that would have to be undertaken to implement a consolidated grant. The regional committees and the Transportation External Coordination Working Group (TEC/WG) have debated the consolidated grant issue for the past several years. According to Mr. Huizenga, the states have generally reported four categories of need: state policy, planning, and coordination; funding assistance; emergency preparedness; and coordination with local officials. DOE has decided to address this issue with tribes separately, beginning with a November workshop. The options that are currently under consideration for the grant program include continuing with the status quo, implementing a limited pilot program, or establishing a baseline grant. In addition to the ongoing exchange of ideas about the grant, Mr. Huizenga's office will brief Assistant Secretary Jessie Roberson about the consolidated grant proposal. Mr. Huizenga assured everyone that no decision has been made regarding the grant proposal and that stakeholders are still encouraged to provide feedback.

Mr. Huizenga briefed the audience on the status of the Transportation Protocols that were developed with assistance from the TEC/WG's Protocols Topic Group. The protocols were forwarded to the DOE Field Management Council on September 11, 2001. A 60-day review period would begin at the end of October 2001 and would be followed by a 30-day response period. A final order and manual would be available by the end of February 2002.

He reported that the TRANSCOM 2000 was implemented on October 1, 2001. Thus far, 298 federal, state, and tribal users have been trained to use TRANSCOM 2000. The new system boasts upgrades in the following areas: security, maintenance, positional interface, map interface, user interface, portability with other DOE transportation systems, and shipment scheduling capability.

DOE also is undertaking a Rail Initiative. The purpose is to identify opportunities for efficiencies, share lessons learned, and develop consistent policies on rail transportation. DOE is considering greater use of intermodal service for shipments to the Nevada Test Site and Envirocare. He also noted "rail-to-WIPP" discussions are underway and other sites are considering upgrading their rail infrastructure.

Mr. Huizenga addressed the topic of shipment security. He stated that all radioactive material shipments were suspended after the September 11 attacks. DOE worked closely with the Federal Motor Carrier Safety Administration/ Department of Transportation (DOT) to implement additional security measures. DOT began conducting security sensitivity visits to all hazardous materials carriers. Shortly after the attacks, unclassified radioactive waste shipments were resumed. However, shipments were suspended again on October 7. Currently, shipments are resuming on an "exception" basis. EM shipping activities will be reviewed and approved on a weekly basis in coordination with safeguards and security experts.

The WIPP State and Tribal Education Program is being merged with the Transportation Emergency Preparedness Program (TEPP) Modular Emergency Response Radiological Transportation Training. TEPP train-the-trainer sessions are continuing and the program is working with FEMA to revise their pre-hospital training video. TEPP and FEMA have been working collaboratively on other matters as well, such as developing a compendium of federal radiological training. In the future, TEPP Regional Coordinators will work with FEMA to integrate TEPP planning and training materials into FEMA HAZMAT assessments. They will also participate in the HAZMAT assessments process with communities along transportation corridors. FEMA and DOE are developing a Memorandum of Understanding on these joint efforts.

Planning Cooperatively While Ensuring Homeland Security

In light of the September 11 attacks, everyone seems to be focused on security issues. With this new focus in mind, the Tri-Regional meeting featured a panel of state and federal representatives that addressed how to continue to work cooperatively to plan shipments in ways that ensure homeland security. While security has always been a key aspect of transportation planning, many people are taking a second look at the security measures in place to protect sensitive shipments of radiological materials.

Communication is Key

A common theme among the panelists was the need to improve the lines of communication throughout all areas of government.

Thomas Hughes of the Pennsylvania Emergency Management Agency and Co-Chair of the Northeast High-Level Radioactive

Waste Transportation Task Force emphasized the need for clear and secure communications during times of crisis. He pointed out that, immediately following the September 11 attacks, the DOE and the Nuclear Regulatory Commission (NRC) implemented different policies for holding shipments. DOE put a hold on radioactive material shipments, while the NRC was willing to let an experimental reactor shipment proceed. Mr. Hughes said it took a "late evening call" to the NRC for them to hold the shipment. Once the state communicated its concerns regarding the shipment — namely that all of their resources were committed and that they would not be able to provide the necessary escorts for this shipment — the NRC held the shipment.

This incident also pointed to the need for re-evaluating secure means of communication

between the states and federal government. Pennsylvania, for example, does not have a secure fax line and has only two "secure telephone units" available. Mr. Hughes added that it is important to be able to communicate sensitive information to the appropriate people. In the aftermath of the attacks, he reported that Pennsylvania would be conducting an internal review of state security clearances for sharing sensitive information.

Coordination a Challenge

Captain Bruce Bugg of the newly created Georgia Department of Motor Vehicle Safety also stressed the importance of keeping the lines of communication open. Captain Bugg

was part of the security planning team when Atlanta hosted the Olympic games in the summer of 1996. One of the lessons learned from the Centennial Olympic Park bombing was

the need to share information. Only after the bombing occurred did Captain Bugg discover that there had been five separate public safety units (including military units) all scouting for chemical threats during the games. None of the units communicated with each other. In some cases, they did not know that other units were in the same location doing the same work.

"It is imperative that communications, intelligence, and data is shared between agencies at the local, state, and federal level," said Captain Bugg. He observed that, "in order to start moving nuclear fuel again, we [the states] need good intelligence and we need good, solid threat assessments so that we can evaluate for ourselves what is going on."

Effective communication and intelligence

gathering are important aspects to ensuring the security of shipments. As the news reports have indicated, driver's license fraud within the commercial vehicle program now has a terrorism implication. Captain Bugg said it would be useful for the states to have access to the same information as the federal government, namely the FBI's "list." This type of information needs to get to the organizations that are "on the street."

Captain Bugg added that states face challenges within their own agencies. The new Georgia Department of Motor Vehicle Safety, for example, pulled people and responsibilities from four different states agencies together into a much larger agency. With a new agency, some staff have not had the benefit of attending regional committee meetings such as these and, therefore, are not yet familiar with DOE shipping campaigns. When discussing threat assessments, it becomes important to have someone who is familiar with the transportation activities and can offer some perspective on the security needs. In light of September 11, the agency is already talking about border-to-border escorts for certain shipments.

Captain Bugg reported that Georgia has a Joint Terrorism Task Force, although his agency is not a member. Part of the challenge of working with such a group is that Georgia has a fairly broad, liberal open-records act. Members would have to be careful about keeping certain information out of the public domain. "Genuinely secure information needs to be kept secure," he said.

In closing, Captain Bugg remarked, "Security is a concern...but we have to continue with the jobs that we are doing." The challenge to improving the security of hazardous materials transportation is to find out "what do we do differently than what we were doing before to make a difference" because we "don't want to

be chasing after poltergeists."

DOE Resources Ready to Assist

Christina Edwards, Regional Response Coordinator for Region III of the U.S. Department of Energy Savannah River Operations Office, discussed the Radiological Assistance Program (RAP) team assets. Ms. Edwards pointed out that the RAP teams are DOE's first responders for a radiological, nuclear event. They offer expertise and assistance in pre-event and crisis management situations. The RAP team can provide a credible radiological threat assessment and can search for stolen materials as well as provide medical advice.

As part of their duties, for example, an aerial monitoring team surveyed the World Trade Center site following the terrorist attacks. DOE utilized all 21+ members of their Region I team on September 11. DOE is now concerned with pre-positioning some of their assets in the eastern part of the country. Most of DOE's consequence management assets are out West. Ms. Edwards pointed out that the RAP teams must be available to respond to an event within their region within 2-6 hours. Additionally, the teams must be prepared to respond to two separate events in the region at the same time.

Federal Agencies on Alert

Skip Young of the Nuclear Regulatory Commission briefly reviewed his agency's response to the September 11 attacks and the heightened security alert. Mr. Young reported that the NRC activated its Incident Response Operations Center at 10:00 a.m. Eastern on September 11. The NRC also placed all of its facilities at the highest level of security: Level III. A member of the audience wanted to know if moving spent fuel on site into dry storage at a nuclear power plant was allowed

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Planning Cooperatively, continued

under Level III security. Mr. Young replied that licensees are responsible for taking prudent security actions to ensure that the site is properly protected. License operators have to make these judgments and determine whether or not the movement is essential to their operations. Another meeting participant noted that Level III is supposed to be in response to a specific imminent threat. He suggested that the NRC add a "Level IV" security alert to distinguish between the different threat levels.

The NRC is reviewing its security regulations and procedures. Mr. Young anticipated that the Commission will generate more security advisories on the shipment of low-level waste and spent fuel, including the on-site shipment of spent fuel from a reactor building to a storage facility. Interim guidance may be issued within the next 90 days.

DOE's David Huizenga provided some remarks on security and communication. He noted that, following the September 11 attacks, DOE

recognized that some state resources were stretched pretty thin. There were occasions when "not making a shipment was not going to break anyone's heart," he remarked. With regard to another shipment, DOE proceeded because the state did not provide any indication that they could not support the shipment. Therefore, DOE needs to find out if their perspective on readiness to ship is in line with the states' perspective on readiness to ship. In other words, "how thinly do you [the states] want [your resources] to be stretched"? For the future, he noted that it is DOE's goal to "build infrastructure to be able to get information out to the states quickly and securely."

Questions, Answers Not Yet Developed

Moderating the discussion was Timothy Runyon of the Illinois Department of Nuclear Safety and Vice Chair of the Midwestern High-Level Radioactive Waste Committee. Mr. Runyon noted the common theme of communication and coordination between the

federal and state governments as being vital to shipment security. He said the full impact of the events of September 11 on shipment security could not yet be assessed. "Not only do we not have a lot of the answers yet," he observed. "We probably haven't even developed a lot of the questions."



*Members of a DOE Radiological Assistance Program team check their equipment.
Photo courtesy of Thomas Hughes, PEMA.*

U.S. Department of Energy Program Reports

Waste Isolation Pilot Plant

Ralph Smith, Institutional Affairs Manager of DOE's Carlsbad Field Office (CBFO), discussed ongoing activities at the Waste Isolation Pilot Plant (WIPP). Mr. Smith reported that the WIPP site had received 404 shipments since opening in March 1999. The CBFO has 38 TRUPACT-II transportation casks in its fleet, and hopes to add two or three TRUPACT-II's per month. In addition, the CBFO is exploring three options for acquiring a TRUPACT-III: using the French GEMINI cask, re-configuring the TRUPACT-II, or constructing an entirely new design.

For transporting remote-handled (RH) waste, the CBFO is procuring the RH 72-B cask. The first cask was scheduled for delivery during October 2001. DOE hopes to receive one RH 72-B cask every few months and quickly build up its inventory to 10 casks. WIPP is not yet licensed to receive RH waste, therefore a future shipment date is unknown. Mr. Smith reported that the CBFO plans to use the 10-160B cask to support overweight shipments, and is exploring the option of making shipments of remote-handled waste in this cask. However, Mr. Smith warned that it is expensive to maintain a large variety of casks at the WIPP site, therefore the number of different cask types would be kept to a minimum.

Due to some problems with cracking in the original trailer equipment, the CBFO is planning to repair the fleet on-site. In the future, DOE will procure new trailers that will be reconfigured to allow the equipment to match the load, thereby eliminating the trailer cracking problem. The CBFO is also pursuing overweight shipments in order to reduce the number of overall shipments during the life of the WIPP transportation campaign.

The CBFO had assumed that a relatively small number of shipments might arrive at the WIPP site and, upon being opened, contain a level of radioactivity that is not permitted for unloading operations. These "reverse shipments" would have to be returned to their site of origin. This problem has occurred sooner than anticipated because a generator site shipped waste that did not conform to established rules and regulations for accepting transuranic waste. Fortunately, the CBFO was able to work with the State of New Mexico to resolve the matter. Mr. Smith noted that the major lesson learned from this ordeal was to establish a clear line of communication. He added that, if a reverse shipment became necessary, DOE would work with all affected states to make sure it would be conducted safely.

Mr. Smith noted TRANSCOM 2000 appears to be useful and user-friendly. He hoped the new tracking system would alleviate the problems of the past that have been experienced with satellite tracking.

John VandeKraats, National Transuranic (TRU) Waste Program Logistics Team Leader, discussed other transportation activities affecting the WIPP site. The National TRU Waste Management Plan was issued in January 2001 and is available via the WIPP homepage. This plan shows the long term strategic planning for transuranic waste shipments that are headed to WIPP. Revision 3 of the National TRU Plan is currently under review and is scheduled for release in January 2002. The major issues in the latest edition revolve around funding and security measures.

The CBFO has funding to support 14-17 shipments per week. Current procurement plans call for the addition of 29 TRUPACT-II's and 15 HALFPACTs. The target date for achieving a full fleet is April 2003. Mr.

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U.S. Department of Energy Program Reports, continued

VandeKraats noted that, with additional funding, the site could receive more shipments; however, it would require additional workforce personnel. WIPP's major focus has revolved around Rocky Flats and the Idaho National Engineering and Environmental Laboratory (INEEL) because of settlement agreements and contractual agreements. The Savannah River Site is another priority site because of its "quid pro quo" agreement to ship out the same amount of waste it receives from Mound. Other sites will have shipments curtailed or postponed according to circumstances.

Mr. VandeKraats said that WIPP operations might increase to seven days per week in order to allow for more efficient use of transportation resources. If multiple shipments per day occur, Mr. VandeKraats asked the state representatives to relieve the CBFO of making two-hour border notifications if the shipment will be arriving in the normal shipping window. A notification will be made if the shipment will *not* arrive in the normal shipping window. This will only apply to sites that are sending multiple shipments per week. The purpose of this plan is to relieve the impact on inspectors at ports of entry so that they will not have to be staffed all hours of the day. The same rule would apply to shipment monitoring. A trial example of this procedure will be initiated with shipments from Rocky Flats and INEEL.

Mr. VandeKraats discussed how the events of September 11 affected shipment security. When DOE raised its level of security and suspended shipments, local law enforcement was very helpful in securing safe parking. DOE is reviewing all security concerns to determine

if the WIPP shipments would fall under the scope of a potential terrorist target. Additional precautions are being taken at the sites in regard to checking the identification of the drivers and thoroughly inspecting the trucks. The CBFO is also considering pairing shipments at those sites that have multiple shipments per week, with trucks dispatched at the same time and maintaining visual contact with one another. So far, shipments have been paired out of Rocky Flats and INEEL.

Office of Civilian Radioactive Waste Management

Jozette Booth, representing DOE's Office of Civilian Radioactive Waste Management



Three shipments arrive at the WIPP site at one time. DOE anticipates reaching its target receipt rate of 17 shipments per week in early 2002. Photo courtesy of DOE's Carlsbad Field Office.

(OCRWM), presented an update of activities undertaken to implement the federal policy for disposal of high-level radioactive waste. DOE is nearing completion of its evaluation of a site at Yucca Mountain, Nevada, to determine its suitability for geologic disposal.

OCRWM continues to perform scientific studies of the site to strengthen the technical basis for a site recommendation decision and

possible submittal of a license application. The results of the studies completed to date are presented in the *Yucca Mountain Science and Engineering Report*.

OCRWM issued a Supplement to the Draft Environmental Impact Statement that updates the assessment of potential impacts. The combined statements contain the most current and comprehensive analyses and information. They do not identify any potential impacts that would be a basis for not proceeding with the proposed actions. DOE is soliciting public comments on the updated information.

In its *Preliminary Site Suitability Evaluation Report*, OCRWM reports that the radiation dose estimates fall below the final U.S.

Environmental Protection Agency and proposed NRC standards. The report is expected to facilitate the public review of the technical basis for continued consideration of Yucca Mountain.

Ms. Booth noted that OCRWM supports DOE's concept of consolidated grants. She said the grants have the potential to simplify the administrative burden for both the states and OCRWM if they can be structured in a manner that addresses the constraints in the Nuclear Waste Policy Act on the use of Section 180(c) funding.

According to Ms. Booth, DOE will maintain primary responsibility to the states, tribes, and local units of government for assuring appropriate interaction and consideration of their input on transportation of spent nuclear fuel and will retain final approval of all transportation routes. OCRWM plans to reestablish its regional cooperative agreements after a national decision is made on the repository site recommendation and it is appropriate to proceed with detailed transportation planning.

Spent Fuel Program

David Huizenga, with DOE's Office of Environmental Management, addressed the management of foreign and domestic research reactor spent nuclear fuel. The Savannah River Site receives 20-30 shipments per year by truck of spent fuel from university and government-owned research reactors. The reactor operators conduct these shipments in compliance with Department of Transportation and NRC regulations. The DOE shipping moratorium affected September and October shipments from domestic research reactors. When the situation normalizes, "missed" shipments will be rescheduled.

With regard to the foreign research reactor program, 22 shipments have been completed to date as a part of this program that concludes in May 2009. Three of the shipments were cross-country shipments and one came into the U.S. on the west coast. These shipments represent approximately 4,900 spent fuel elements. The most recent shipment was completed in October 2001 and included fuel from Germany, Sweden, and Japan.

DOE is identifying potential shipping sites for 2002. Mr. Huizenga said if a 2002 cross-country shipment is required, the Cross-Country Transportation Working Group will be notified and planning will commence immediately. The lead for DOE planning and coordination for the cross-country campaign is being transferred from Savannah River Site to INEEL. Mr. Huizenga stated that the goal of the spent fuel program is to maintain what is working by building upon the efforts of the Cross-Country Transportation Working Group.

Panel on Rail Transport

The year 2001 was marked by a renewed interest in rail transport of radioactive materials. DOE's West Valley Demonstration Project spent the year planning the largest shipment of commercial spent fuel by rail since the 1980s. The Miamisburg Environmental Management Project (MEMP) worked with five corridor states to plan the first rail shipment of transuranic waste since 1987. Furthermore, the National Transuranic Waste Program has begun to re-evaluate the potential for rail transport to help DOE meet its milestones for removing transuranic waste from its major shipping sites. The Tri-Regional meeting hosted a panel on rail transport to share lessons learned and discuss future opportunities to ship by rail.

Mound Ships

Almost two years in the works, the first shipment of transuranic waste from DOE's Mound facility in Ohio arrived safely at its destination — the Savannah River Site (SRS) in South Carolina — on September 29. Oba Vincent, Deputy Director of the MEMP, reviewed the lessons learned from the shipment, which is the first of an estimated 10 shipments. He observed that the actual time in transit was significantly shorter than the original estimate. Partly as a result, the hourly updates of the TRANSCOM tracking system were not sufficient to meet the needs of the states. For example, the first update on the system after departure occurred just after the shipment had crossed out of Ohio into Kentucky. Had there been an incident involving the shipment while it was still in Ohio, the system might not have facilitated the state's response to the emergency.

Despite the problem with the hourly updates, the TRANSCOM

2000 system worked well. The only exception occurred during the stretch between Atlanta and Augusta, when the system failed to automatically update. Mr. Vincent noted that TRANSCOM 2000 performed well in comparison to the railroads' tracking systems. Norfolk Southern's customer tracking system was not secure, so DOE chose not to post information on the shipment to this system. CSX's system was more secure, but the computer went down while the shipment was traveling through Georgia.

In the months leading up to the next shipment, DOE will work with the TRANSCOM Control Center to increase the frequency of updates from 60 minutes to 30 minutes. Mound's shipments to SRS are dependent upon the latter site shipping twice as much material to WIPP. SRS will work with DOE's Carlsbad Field Office (CBFO) to put in operation a mobile vendor at SRS to characterize the waste for disposal, which should increase the amount of material leaving the site.

In the meantime, Mr. Vincent said DOE would apply to the U.S. Department of Transportation



DOE's OHOX railcar is loaded for the first shipment from Mound, in Ohio, to the Savannah River Site. Photo courtesy of the Miamisburg Environmental Management Project.

(DOT) to extend the DOT exemption under which the OHOX railcars are used to transport the Mound waste. DOE will seek a standard two-year extension of the exemption, which currently will expire at the end of May 2002. DOE will also evaluate the feasibility of refurbishing two more ATMX railcars to enable two cars to be shipped at once while keeping the same number of cars in reserve for offload capability in the event of an accident. According to Mr. Vincent, May 2002 is the tentative timeframe for the next shipment from Mound. He and his staff will resume weekly e-mail updates to the corridor states as that date approaches.

To WIPP by Rail?

Even before Mound made its first shipment of transuranic waste by rail, the CBFO had begun to re-evaluate rail as an option for shipping to WIPP from major sites such as Rocky Flats, Idaho National Engineering and Environmental Laboratory, Hanford, and SRS. Unlike the case with Mound, DOE cannot take advantage of the ATMX (or OHOX) railcars to ship to WIPP. The WIPP Land Withdrawal Act requires DOE to use "Type B" containers for shipments to WIPP. Even if Congress were to amend the enabling legislation, DOE has an agreement with the state of New Mexico to bring transuranic waste to the WIPP facility only in Type B containers.

Michael Cash of Alabama represents the Southern states on the SSEB/WGA Rail Program Implementation Guide Working Group. Mr. Cash reported on a recent meeting the group had with Burlington Northern/Santa Fe (BNSF) to discuss the rail company's proposal for rail transport to WIPP. Aside from the need to meet milestones for cleaning up the major sites, rail is considered an attractive option because it has the potential to help DOE address the problem of transuranic waste packages that are overweight or oversize.

BNSF proposed shipping seven TRUPACT II containers per railcar on 100-ton, 62-foot

bulkhead flatcars. Each shipment would be limited to three railcars. The railcars and the shipments would adhere to all regulations of the Nuclear Regulatory Commission and the Federal Railroad Administration, as well as to the recommended practices of the Association of American Railroads. Alternative routes and "safe havens" would be identified prior to shipment. State and DOT personnel would conduct radiation surveys. Like other rail carriers, BNSF would limit inspections to the stops identified for crew changes, which occur every 12 hours. State and federal surveyors would be required to follow all BNSF rules and safety practices.

The primary route BNSF proposed from SRS would travel through New Orleans. This route deviates significantly from the highway corridor currently used to transport transuranic waste to WIPP. If DOE were to use this route, doing so would necessitate a significant amount of new training in the corridor states. The alternative route through Birmingham is somewhat closer to the current highway route.

The proposal from BNSF came as a result of DOE's request for information on the feasibility and the costs of rail shipments. Although a decision to ship by rail is months if not years in the future, Mr. Cash said the WGA/SSEB Rail Working Group would meet in 2002 to begin developing a program implementation guide for rail shipments to WIPP.

DOE's Rail Initiative

As part of the "top-to-bottom" review of the Office of Environmental Management, DOE's National Transportation Program (NTP) began to look at the costs and benefits of rail and/or intermodal transport of low-level radioactive waste to the Nevada Test Site. Judith Holm, with NTP in Albuquerque, reported on this recent rail initiative. She noted that, although DOE is concentrating on the high-volume shippers of low-level waste within the

Continued on the next page

Panel on Rail Transport, continued

Department, the recommendations that result from this assessment could apply to other materials, as well.

By changing its approach to purchasing drums for low-level waste, DOE could potentially reap millions of dollars in savings. Scheduling changes could make it possible for smaller sites to combine their shipments with larger ones coming from major sites. DOE is also interested in negotiating with the railroads to get nationwide tenders for service. Had such a system been in place this year, DOE might have been able to reduce the time spent negotiating with the railroads over the shipment of spent fuel from West Valley.

Ms. Holm noted that there were some obstacles to switching from truck to rail as the mode of choice for large volume campaigns. Some sites, for example, do not have convenient rail access to the buildings in which material is stored. In addition, rail transport would not be feasible for time-sensitive shipments. Shipping by rail would also be contingent upon the thru-put capability at the receiving sites. Ms. Holm also noted that, if DOE were to embark on new, major shipping campaigns by rail, the Department and the states would likely need to address training for emergency responders, planning and coordinating on shipments, and defining roles and responsibilities for the shipping campaigns.

The Regulator's Activities

Kevin Blackwell, with the Federal Railroad Administration (FRA), acknowledged the need for all federal and state agencies to be even more mindful of security than they had been in the past. The FRA's Safety Compliance Oversight Plan (SCOP) contains less than a full page on security — sufficient, perhaps, in the pre-September 11 era, but no longer. As part of the ongoing revision of the plan, Mr. Blackwell said he expects to see the security section "beefed up." The states will have an opportunity to comment on the draft SCOP through the regional organizations.

Even under the current SCOP, the FRA had questioned its ability to apply all elements of the plan to all shipments of spent fuel and high-level waste, particularly once the number of shipments begins to increase. With added security measures, Mr. Blackwell cautioned that the FRA might eventually have to apply elements of the SCOP selectively to upcoming shipping campaigns.

Like most government agencies, the FRA saw a flurry of activity following the terrorist attacks on September 11. DOT activated a Crisis Management Center to cover calls related to the security of the nation's transportation system. On September 17, DOT established a National Infrastructure Security Committee to assess the possible consequences of sabotage or attacks on the national infrastructure, and possible protection strategies to avert such acts.

One event that triggered a number of calls to the Crisis Management Center was the decision by the Association of American Railroads to issue a directive to all member railroads on October 8. The Association directed the railroads to move all radioactive, hazardous, and other highly sensitive materials awaiting shipment to secure areas — that is, off sidings and into enclosed rail yards. In addition, the railroads stopped accepting new shipments of hazardous materials for a period of 72 hours. The media incorrectly reported that the railroads had banned all shipments of hazardous materials.

Mr. Blackwell said the FRA had not issued any advisories following September 11, nor had it acted to correct the erroneous reports in the press about hazardous materials shipments being halted. He noted that the FRA does not have the authority to embargo cargo. The Secretary of Transportation, however, does have the authority to issue an emergency order with the proper rationale, not just as a preventive measure. According to Mr. Blackwell, an emergency order is more suitable for a long-term solution to a problem, not for a reaction to an immediate threat.

Private Fuel Storage Still on Track

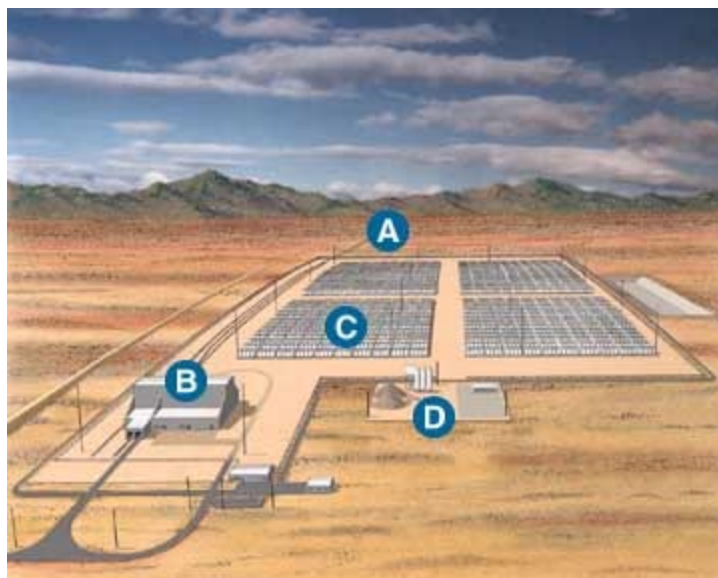
John Parkyn, Chairman of the Board of Private Fuel Storage (PFS), presented an update on the PFS project. PFS is a group of eight electric utility companies that have partnered with the Skull Valley Band of Goshute Indians to build and operate a temporary facility to store spent nuclear fuel rods from commercial power plants. The Goshute Tribe has agreed to lease 820 acres of their 18,000-acre reservation in Skull Valley, Utah, for the facility. The facility would be located on 100 acres and would store up to 4,000 aboveground storage casks on thick reinforced concrete pads, each cask containing 10 metric tons of spent fuel.

Mr. Parkyn explained that PFS is pursuing development of the facility for several reasons. First, there is a risk that, without a place to temporarily store spent fuel until a federal repository is ready, some of the nation's nuclear power plants may have to shut down before their operating licenses expire. In addition, the PFS partners believe that long term storage at disperse nuclear power plant sites across the country is inappropriate. Without an off-site facility for either storage or disposal, utilities are unable to plan for investing in license renewal or power plant improvements. This uncertainty also makes it difficult to decommission power plant sites until the spent fuel is moved away. PFS hopes that a centralized, temporary storage facility will address all these issues.

Mr. Parkyn described the facility's licensing history, status, and future plans. PFS filed an application for a license for the facility with the NRC in June 1997. The NRC released the draft

Environmental Impact Statement (EIS) for public comment in June 2000, and the final is due in December 2001. The NRC is expected to decide whether to grant a license in the fall of 2002. If a license is granted at that time, the facility is expected to be ready to accept spent fuel in 2004.

All the spent fuel casks would be transported to the facility by rail, primarily by dedicated trains. The facility would be accessed by a 32-mile rail line, from the Union Pacific rail line at Low, for the delivery of spent fuel. The spent fuel containers will never be opened at the site and the fuel itself will not be handled while in storage at the facility.



This illustration shows the rail line (A) that will enter the PFS facility from the west and run to the cask transfer building (B). There, the shipping casks will be removed from the rail cars. Then the storage canisters will be removed from the shipping casks and placed into steel and concrete storage casks. The storage casks will then be placed on three-foot thick reinforced concrete pads (C). The concrete for the robust storage casks will be made on site at the batch plant (D). Illustration and caption courtesy of Private Fuel Storage, LLC.

Letter of Consensus

As at past joint meetings, the states participating in the Tri-Regional meeting identified areas of common interest and concern regarding the U.S. Department of Energy's programs for transporting radioactive materials. The regions compiled those areas of common interest into a letter of consensus. Co-signed by the chairs and co-chairs of the regional committees, the letter was directed to Secretary Abraham on December 11, 2001. The text of the letter follows.

"Dear Secretary Abraham:

On October 23-24, representatives of the states in the Midwestern, Northeastern, and Southern regions participated in a joint meeting to discuss the U.S. Department of Energy's (DOE) activities related to the transport of radioactive materials. The assembled states convened this meeting as one of their key activities supported by their regional organizations' cooperative agreements with DOE. We are pleased to have the opportunity to write to you on behalf of our three regions to report on the points of consensus identified at the joint meeting.

We have twice before held such joint meetings with the goal of identifying areas of common interest and concern between the regions.

In 1998, we wrote to your predecessor Secretary Peña to report on three issues of consensus identified at the second joint meeting. In that letter, we identified transportation planning, privatizing transportation

services, and route selection as key transportation-safety issues on which the states had adopted a common policy position.

In 1998, we observed that state concerns regarding planning for the various DOE radioactive materials shipments were similar.

Therefore, DOE should adopt a consistent approach to coordinating with the states on shipment planning. We are very pleased that, in the years since our first letter, DOE has worked with the states, tribes, and other stakeholders to develop a uniform set of transportation protocols for use throughout the Department. We encourage you to expedite the process for implementing these new protocols.

Much of the discussion and review of the transportation protocols was conducted through DOE's Transportation External Coordination Working Group (TEC/WG),

which the National Transportation Program (NTP) convenes. The states value greatly all the work that the NTP does in support of DOE's transportation activities. In addition to overseeing the TEC/WG, NTP has done an admirable job developing and

operating the TRANSCOM 2000 tracking system, preparing public information materials, and compiling advance planning information into quarterly Prospective Shipments Modules.

NTP's activities and publications are useful tools to help other programs to avoid "reinventing

"[G]iven the heightened emphasis on security, it will be more important than ever for us to share information and work together to make sure that shipments are conducted in a safe and secure manner."

— 2001 Letter of Consensus

the wheel” when they embark on new shipping campaigns. Our three regions have participated in the planning and preparation for eight recent shipping campaigns involving spent nuclear fuel and transuranic waste. We observed instances in which good resources — such as transportation plans and public information materials developed with the states — were available but were not utilized by the programs. Some of these campaigns have gotten off to a slow start simply because they were not aware of the work that had been done before by NTP, or by exemplary programs such as the Waste Isolation Pilot Plant Program and the Foreign Research Reactor Spent Fuel Program.

We believe that early and continuous coordination with NTP would help programs with upcoming shipping campaigns get off to a good start. We further believe the Department and the corridor states would benefit greatly from the creation of material-specific transportation plans for programs to use as a model. Using existing, state-reviewed documents as a starting point for the planning of future shipping campaigns would save DOE and the states a great deal of time and money by eliminating the need to prepare new transportation plans and associated documents from scratch.

One program that would benefit from following the example of others is the Office of Civilian Radioactive Waste Management (OCRWM). Depending on the outcome of this year’s site recommendation to the President, OCRWM could be on a path forward to starting shipments in eight years. Financial and training assistance mandated by Section 180(c) of the Nuclear Waste Policy Act would have to

begin in just four years, under the draft policy and procedures published in 1998. The states believe that, in 2002, OCRWM should begin working in earnest to resume public information activities and to develop a national transportation system for shipping commercial spent fuel — one that will involve dozens of shipping sites, multiple routes, and two different modes of transport. Re-establishing the cooperative agreements with the regions and other groups would be an important step for OCRWM to take as it resumes these activities.

In closing, the states recognize that, in light of the recent terrorist attacks on the United States, many aspects of our lives will be changing, particularly with regard to concerns for the safety and security of all Americans. We sincerely hope to preserve our cooperative relationship with the Department and to continue working together to plan for shipments of radioactive materials. Indeed, given the heightened emphasis on security, it will be more important than ever for us to share information and work together to make sure that shipments are conducted in a safe and secure manner.

We believe it is possible for the states and your Department to strike a balance between planning cooperatively and ensuring homeland security. In doing so, we will need to think beyond our own programs, our own budgets, our own borders, and focus on what the states and the federal government can do, as working partners, to continue to ensure the safe and uneventful movement of radioactive materials in this country. We thank you for the opportunity to present our united position to you. We look forward to your reply.”

2002 Regional Committees and Their Leadership

Southern States Energy Board

Radioactive Materials Transportation Committee

Chair: Elgan Usrey, Tennessee Emergency Management Agency

Vice Chair: John Volpe, Ph.D., Kentucky Department for Public Health

Transuranic Waste Transportation Working Group

Chair: Sandra Threat, South Carolina Department of Health & Environmental Control

Vice Chair: Michael Cash, Alabama Department of Public Health

The Council of State Governments, Eastern Regional Conference

Northeast High-Level Radioactive Waste Transportation Task Force

Co-Chair: Tom Hughes, Pennsylvania Emergency Management Agency

Co-Chair: Ed Wilds, Ph.D., Connecticut Department of Environmental Protection

The Council of State Governments, Midwestern Office

Midwestern High-Level Radioactive Waste Committee

Chair: Timothy Runyon, Illinois Department of Nuclear Safety

Vice Chair: Thor Strong, Michigan Low-Level Radioactive Waste Authority

Selected On-line Resources

U.S. Department of Energy Programs and Related Information

National Transportation Program www.ntp.doe.gov

National Transuranic Waste Program www.wipp.carlsbad.nm.us

National TRU Waste Management Plan www.wipp.carlsbad.nm.us/library/ntpmp/NTWMP, Rev. 2.pdf

Office of Civilian Radioactive Waste Management www.rw.doe.gov/homejava/homejava.htm

Environmental Protection Agency

Radiation Protection Standards for Yucca Mountain

www.epa.gov/radiation/yucca/docs/yucca_mtn_standards_060501.pdf

Nuclear Regulatory Commission Final Rule
for Disposal at Yucca Mountain (10 CFR 63)

www.ymp.gov/new/10cfr63_frn.pdf

Spent Fuel Program nsnfp.inel.gov

Transportation Emergency Preparedness Program www.em.doe.gov/otem/program.html

Transportation External Coordination Working Group twilight.saic.com/newtec

Federal Railroad Administration

www.fra.dot.gov

Safety Compliance Oversight Plan

www.fra.dot.gov/pdf/scopfnl.pdf

Private Fuel Storage, LLC

www.privatefuelstorage.com

Nuclear Regulatory Commission

Final Environmental Impact Statement

www.hsrdo.ornl.gov/nrc/special/environ/skullvalley.htm

The Council of State Governments

Eastern Regional Conference

www.csgeast.org/programs/energy_enviro/e_radiowaste.html

The Council of State Governments

Midwestern Radioactive Materials Transportation Project

www.csgmidwest.org/MRMTP/MRMTP.html

Southern States Energy Board

www.sseb.org/current.htm



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