

**The Council of State Governments  
Midwestern High-Level Radioactive Waste Committee**

***Proceedings of the 18<sup>th</sup> Meeting***

**Clive, Iowa**

**December 1-2, 1998**

Mr. Don Flater (Iowa) called the meeting to order. He mentioned a video, entitled *Using the Emergency Response Guide: First Response to Incidents Involving Radioactive Materials*, which was available from the U.S. Department of Transportation. He provided information for ordering the video. He then turned the floor over to Ms. Lisa Sattler (CSG-MW) for the project update.

**Project Update**

Ms. Sattler briefly reviewed the project update, which was included in the briefing materials. She noted that DOE's Savannah River Operations Office had added \$200,000 to the cooperative agreement CSG-MW had with DOE. The purpose of the additional funding was for CSG-MW to assist in coordinating with the Midwestern states on transportation planning related to the 1999 shipment of foreign research spent fuel from the Savannah River Site in South Carolina to the Idaho National Engineering and Environmental Laboratory. She noted that the first meeting of this group would be in Savannah, Georgia, the following week.

**Committee Discussion and Roundtable: State Preparations for Shipments of Spent Nuclear Fuel**

Prior to starting the roundtable, the committee discussed at length how to report the information after the meeting. Ms. Sattler said she had hoped to compile all the information into a written report for reference by the Midwestern states. Several committee members expressed their concern that their statements might be taken out of context. The underlying concern was that a written report might be used as "evidence" that there was a high level of preparedness for shipments on the part of the Midwestern states. In fact, the state reports planned for the meeting would reflect only the current state of affairs, which was based on a low frequency of shipments. The committee voted to incorporate the information from the state reports into the minutes without preparing a separate document.

*Iowa*

Mr. Flater said the State of Iowa did not have enough funding appropriated specifically for the task of preparing for shipments of radioactive materials. He said Iowa was an agreement state, and there were numerous facilities that paid a fee for inspections. Because Iowa was home to a nuclear power plant, the state had inherited many Eberline instruments from the utility. He added that the state had corrected the front plates of the equipment to convert counts per minute to millirems per hour. In addition, the state bought cases for the equipment through the utility budget.

In terms of training, Mr. Flater said the state had trained close to 200 people to date. He said if the state were to train all local responders, doing so would involve 8-10,000 people along the corridors. With a turnover rate of 40-60 percent annually, not to mention continuing education requirements, the state simply did not have the staff or the resources to conduct such an extensive training program. As a result, the state had opted for a team approach to emergency response. In this way, the state would conserve resources while maintaining a steady, well-trained response force.

Mr. Flater distributed a map showing the location of regional response teams in the state. The map also indicated hospitals that had received a state-modified version of the FEMA medical training course.

Mr. Flater said the hazardous materials teams would respond to any incident, not just those in their own region. He said the state did not intend to conduct a great deal of inspecting, especially since Illinois inspected every shipment by state law. Mr. Flater said shipments coming from the west might be another matter, since Nebraska might not always inspect shipments.

Capt. Tom Sever commented on the NRC requirement to have armed escorts in highly populated areas. He cautioned that this requirement could call more attention to shipments if implemented improperly. Mr. Flater added that his office recently disagreed with the NRC's Chicago office regarding the use of I-235 through Des Moines. He said the state ultimately prevailed in the dispute and the shipper changed the route. Mr. Kevin Blackwell (Federal Railroad Administration) commented that there was a "security issues working group" at the federal level, which was trying to resolve these issues.

Mr. Lew Steinhoff (DOE-Defense Programs) asked whether the state security escort would be a car following the vehicle or a person sitting in the cab with the driver. Capt. Sever said that would depend on the shipment and the state. In Iowa, the State Police would follow the truck in a separate vehicle. He acknowledged that coordinating schedules was often difficult, especially if states decided to inspect the shipment. He added that having a police car follow the vehicle could make the driver nervous, thereby potentially affecting the safety of the shipment. In response to a question, Capt. Sever said the State of Iowa would escort a shipment if requested by the shipper. Ms. Judith Holm (DOE-National Transportation Program) added that the second driver could serve as an escort, depending upon what the state wanted to do.

Mr. Blackwell said the NRC made it the responsibility of the licensee to provide security escorts. The shipper could request that the state escort the shipment, but it was permissible for a state to refuse. In that case, the shipper would contract with a private security company to provide this service. Ms. Elissa Turner (DOE-OCRWM) added that the security escorts being discussed were for the purpose of protecting the shipment, not the public along the routes.

Mr. Tom Lange (Missouri) commented that the NRC regulation requiring security escorts in a populated areas seemed to imply that threats to security would be more likely in a populated area rather than a rural one. He pointed out that if the rationale were the greater potentially exposed population in urban areas, the requirement for an escort amounted to a health measure, not a security one. Ms. Holm mentioned that the NRC had tried to amend its regulations eight years ago. One of the proposed changes was to drop the requirement for an armed escort. So many commenters objected, though, that the NRC withdrew the notice. Mr. Flater asked when the NRC's requirement for a security escort went into effect. Ms. Turner said she would find out.

### *Indiana*

Mr. Roger Andrews said the State of Indiana recognized a strong need to educate the public regarding radioactive materials, particularly in the northern part of the state. He said the state could not provide intensive training for responders along all possible shipping corridors. As a result, the state would limit its activities to providing awareness level training along likely routes. He added that the state would rely on some of the counties to train their own responders. Mr. Andrews said

the state had prepared a draft emergency response plan specific to transportation incidents involving radioactive materials. The plan was still in the draft form.

On the subject of demonstrations, Mr. Andrews commented on his experience the previous year of attending a meeting with the St. Joseph Valley Greens, an anti-nuclear organization based in the northern part of the state.

In terms of emergency preparedness, Mr. Andrews said the state had 14 regional teams. Only one medical facility in the state was prepared to handle radioactively contaminated patients. Mr. Andrews said he and eight or nine other people in the Department of Health were the only trainers in the state, and he predicted that there would be a need for additional trainers if the frequency of shipments were to increase. Mr. Andrews added that the teams were not deliberately placed long possible routes, but that, in fact, they did happen to be located along major rail routes. He said the state had a total of 37 hazardous response teams, but that not all would be trained to handle radioactive materials incidents.

The State of Indiana did not have nuclear power plants, and only a small amount of funding was available from utilities outside the state for conducting ingestion pathway exercises. In addition, Indiana did not maintain its own calibration shop.

The state did not currently escort shipments, but Mr. Andrews said pending legislation might make escorting mandatory. Fees were also a provision in pending legislation, with the proposed amount being \$1,000 per rail or truck cask. State inspections would also be a requirement under one of the bills introduced the previous session. Mr. David Crose (Indiana) added that the state police were not interested in escorting shipments through the state. He clarified that the bill introduced by Senator Gard did not require escorts. He added that both Illinois and Ohio would inspect shipments, and questioned the value of having Indiana conduct inspections as well. Mr. Blackwell noted the potential problem of having too many inspections. He said rail companies were required to perform a 1,000-mile brake inspection.

Mr. Andrews said Indiana would have to spend much more time and energy to prepare for near-term shipments. He noted that the cross-country shipments of foreign research reactor spent fuel would not be a problem since the route crossed only the tip of the state.

Mr. Andrews said routing in the northern part of the state would likely cause difficulties, since that was where the anti-nuclear groups were concentrated. He said the Indianapolis 500 was the big event in the state, but that there were others that might require a routing change. Special events would have to be handled on a case-by-case basis, though, since these events might not be held at the same time each year. He stressed the importance of an early start to the route-planning process for this very reason.

Mr. Andrews said that the state Emergency Operations Center currently used TRANSCOM and that the staff had received training. The state had just received its second copy of the software for use by the State Police. Mr. Andrews anticipated a need for training for staff with the State Police. He said that both the State Emergency Management Agency (SEMA) and the State Police would monitor TRANSCOM during a shipment.

Mr. Thor Strong (Michigan) asked about the status of legislation in the state. Mr. Andrews said that one bill from the previous session was likely to be reintroduced, but that the others apparently had all disappeared. Sen. Beverly Gard said she chaired the committee to which all such bills were

assigned, and she had not seen any bills except her own. She thought her bill stood a good chance of passing this year. She also mentioned that the bill would set in statute the emergency response hierarchy in the state, which traditionally had been disputed by SEMA and the Department of Health.

Sen. Gard also commented on an interesting coalition of forces working against spent fuel transportation in the state. She said the environmental groups had been joined by several electric utilities. Apparently, these utilities were gearing up for deregulation of the electric industry. By opposing transportation, the utilities hoped either to shut down their competitors or force them to price nuclear power so high as to be uncompetitive.

Mr. Andrews mentioned that Indiana uses an Ohio facility to calibrate its equipment. He said Indiana used to have its own facility, but could no longer afford to operate it after the Federal Emergency Management Agency (FEMA) cut back funding for the program. Mr. Tim Runyon (Illinois) said Illinois would calibrate equipment for a nominal fee. Mr. Flater said it cost the State of Iowa \$30 per instrument to pay for calibration.

Mr. Crose added that the Hoosier Dome Convention Center was another consideration in special routing circumstances because of the proximity of rail lines. He noted that, in addition to the Indianapolis 500, the Brickyard racing event took place in Indianapolis in August. He said that facility was not as close to major transportation infrastructure.

#### *Ohio*

Mr. Robert Owen (Ohio) said he had interacted with the Public Utilities Commission of Ohio and the Emergency Management Agency, but he had not been able to contact all the other agencies in the state. As a result, his comments would be on behalf of the Department of Health.

Regarding communications, Mr. Owen said the Ohio High-Level Radioactive Waste Task Force consisted of eight agencies with responsibility for regulating or overseeing the transport of high-level waste in the state. He said the group tried to have a coordinated effort to plan and prepare for shipments. On the subject of communicating with the general public, Mr. Owen said the state's experiences as host for the low-level waste disposal facility had demonstrated the many benefits of good public communication.

Mr. Owen said the state's approach to emergency response would rely on local capabilities rather than a regional or state-centered approach. The Ohio Emergency Management Agency already had training programs for teaching responders how to handle incidents involving radioactive materials. Mr. Owen said the state had not been in the habit of training local communities to be fully prepared for an accident involving spent nuclear fuel, but he felt there was a solid foundation upon which to build. He thought the Transportation Emergency Preparedness Program (TEPP) modules might be helpful in this regard.

Mr. Owen said the hospitals near the power plants had received training. In addition, the Ohio Department of Health would train other hospitals along the routes to be used for shipment, if necessary. Mr. Owen stressed that the current planning efforts were currently being paid by the state, not by DOE.

In terms of equipment, the Emergency Management Agency (EMA) and the Public Utilities Commission of Ohio (PUCO) had a great deal of equipment. The PUCO had survey meters for

inspecting shipments, while EMA had civil defense equipment as well as a calibration facility. The Department of Health had the full spectrum of equipment, which was required as part of its application to become an agreement state. As a result, the state was pretty well off in terms of equipment. The local governments, however, were another matter.

Mr. Owen reported that the state's Radioactive Materials Transportation Plan was in the final draft form. The state agencies would use the plan as guidance for dealing with shipments in the state. No routes had been designated as yet, however the state did wish to have influence over the selection of routes. Mr. Owen said that, ultimately, the state hoped to have preferred designated routes both for pass-through shipments as well as for those that originate in the state. He commented that routes would always be changing, so he would like to see the routing evaluation study extended beyond the one year necessary to prepare the plan.

Mr. Owen said the EMA had TRANSCOM and would participate in a dry run on December 16-17. The PUCO would not escort shipments, although the Department of Public Safety had the authority to do so. Currently, the state did not charge a fee for spent fuel shipments. A permit fee was required for hazardous materials shipments. This fee would include an annual registration fee plus a fee for the permit. The annual fee would be based on a combination of hazardous materials transported in the past as well as future projections.

Mr. Carlisle Smith said the PUCO performed enhanced CVSA inspections on shipments. In addition, the PUCO was seeking a copy of the TRANSCOM software. The PUCO also had rail inspectors certified by the Federal Railroad Administration (FRA) in all disciplines, so the state was prepared to conduct rail inspections. Mr. Smith said the intelligent transportation system would give any highway inspector an opportunity to review a vehicle's history, inspection results, and other information. He said Ohio would use this system if it were to become widely adopted.

Mr. Strong asked if the state was conducting its routing evaluation study in-house and if the state would use the DOT guidelines. Mr. Smith said one of the state's universities would conduct the study. He said the PUCO would issue a press release when it awarded the grant to the university. He said the study would follow the DOT guidelines. Mr. Strong asked if the state would solicit public comments on the study. Mr. Owen said he was not sure whether the state would or not. Mr. Crose said the HM-164 regulations required one public meeting for hazardous materials route designations, and that the State of Indiana would do so for radioactive materials routes. Mr. Strong said the regulations were worded slightly differently for radioactive materials, and that there was no specific requirement for a public meeting.

#### *Kansas*

Mr. Frank Moussa (Kansas) said his agency had begun an informal dialogue with counties regarding continuing radiological training for emergency responders. He said the training in the state had definitely increased in recent years. Mr. Moussa said the bill introduced by Rep. Joann Freeborn was tantamount to communicating with the Kansas Legislature on radioactive waste issues. His office had also been in touch with the governor's office regarding the impact of shipments on the state agencies. After the governor's office took the lead on this issue, two things happened with regard to the movement toward a regionalized hazardous materials response. First, an additional \$500,000 in funding was made available for regionalized hazardous materials teams. This funding was made part of the State Fire Marshall's program. Second, the counties were also eligible to

request grants for training purposes, such as sending personnel for training at the Pueblo facility in Colorado.

Mr. Moussa said there was an active but peaceful group of individuals who opposed shipments. The state had not initiated a formal dialogue with demonstrators, but rather was treating them like the rest of the public at this point. Mr. Moussa added that the governor supported the idea of mutual aid agreements with other states. He added that, because of the nuclear power plant, there were hospitals in the state that were trained to handle radioactively contaminated patients.

Mr. Moussa said his agency was working on a rough plan for radioactive materials shipments in the state. He said he hoped to move eventually to the type of plan that would include a risk assessment or analysis. This year, his office had received approval to hire a new planner, so Mr. Moussa was hopeful that the plan would not be long in coming.

Mr. Moussa said all counties should be trained to the radiological monitoring level, which in Kansas is the equivalent of the awareness level. The response level would be reserved for regional team members.

The Kansas calibration facility was still operating. Mr. Moussa said the state had committed \$60,000 to replace old civil defense equipment. He said the source of funding for this equipment was ultimately the fees from the state's nuclear power plant.

Mr. Moussa said he did not anticipate that the state would provide an actual tag escort, but that the highway patrol offices would be notified of shipments and given the option of escorting.

With regard to near-term shipments, Mr. Moussa said his state was about as prepared as it could be given its limited budget. He said he hoped the federal government would support the state's efforts to better prepare for shipments. He said he would like to see DOE provide funding for training as well as for purchasing equipment.

The state was still examining the issue of routing to see what the requirements were for state and local governments and the shipper. Mr. Moussa said the state had not taken a position one way or another regarding notification of local governments. He mentioned that 80 percent of the responders in the state were volunteers. Mr. Moussa added that the state was getting the TRANSCOM software and he hoped operators would receive training soon.

Mr. Strong asked about the regional concept. Mr. Moussa said the state had regionalized teams that would be state supported. He said the goal was to move from three to 12 such teams. The governor freed up funding from the fire fund (derived from an insurance surcharge) to go to the State Fire Marshall's office to pay for these teams. Mr. Moussa said he would eventually like to see the state support this program directly. Mr. Moussa said the teams would be spread throughout the state. He said Johnston, Wyandotte, Sedgewick, and Shawnee counties were the most populous in the state. Mr. Moussa said 1.5 to 2.3 million people were located in the northeastern part of the state. He added that the hazardous materials teams would be trained to the technician level under 29 CFR 1910.120.

#### *Wisconsin*

Ms. Christine Bacon (Wisconsin) said the State of Wisconsin had convened a working group of agencies to address high-level radioactive waste issues. The group had begun discussions, looking

particularly at the proposed federal legislation. The group had decided to go on hiatus pending the receipt of more specific information regarding the impact of shipments on the state.

Ms. Bacon said it had been a long time since the state experienced any demonstrations related to radioactive waste. She suspected, though, that when shipments began, there would be some protests.

With regard to emergency response, Ms. Bacon said there were seven strategically located, state-funded response teams in the state. The annual budget to main these teams was \$1.2 million, plus money for equipment for the county response teams, which were trained to the technician level. In all, 33 counties had personnel trained to this level. Ms. Bacon said that funding for training programs in the state was sufficient for the time being, but she noted that the state was currently unaffected by shipments.

Ms. Bacon added that, after completing the technician-level courses, many responders expressed concern specifically over the radioactive materials portion. As a result, the Radiation Protection Unit of the Department of Health and Family Services was making itself available to assist in radiological training.

The Radiological Protection Unit had the best equipment. Ms. Bacon noted that, when the RADEF program closed, so did all related activities in Wisconsin. Illinois currently calibrated the equipment in Wisconsin. Ms. Bacon said she would check with the calibration facility to ensure that it could accommodate CV 718s and other newer equipment, which the state was planning to purchase.

Ms. Bacon said she anticipated that the state would escort some shipments, with the State Patrol being involved in that activity. She said Wisconsin was a very strong "home rule" state, therefore the local governments could be involved, if they so desired and if the state had the money to provide training. Ms. Bacon noted that Wisconsin did have fee legislation, but there was no program in place to enforce it.

Regarding infrastructure, Ms. Bacon said the state Department of Transportation would have to look at the roads and rails to determine whether there was a need for repairs. The Department of Transportation and Department of Health and Family Services would also be involved in inspections, but not much had been done to date on this subject. Ms. Bacon said, for near-term shipments, the state would have to step up both training and communication, which would be difficult to do with little lead time. She said having nuclear plants in the state would help, because the local communities would be pretty well prepared.

On the subject of routing, Ms. Bacon said the I-43 corridor might be a concern. This highway served both nuclear plants on the eastern side of the state. She said the state had not done a lot of work on alternative routes, but probably would start looking at the matter once shipments became imminent. She added that the state did not yet have TRANSCOM access, but that there was definitely interest in obtaining it.

### *Illinois*

Mr. Runyon started his presentation by saying that the State of Illinois had been involved in spent fuel shipments for many years. Based on his experience, Mr. Runyon said a one-size-fits-all approach to preparedness would not work. He said the state agencies in Illinois were doing what they felt was necessary given their unique situation.

Mr. Runyon described the state's inspection and escort program. He said the state inspected shipments of spent fuel and high-level waste for compliance with U.S. DOT and NRC radioactive materials and motor carrier regulations. The state also provided security escorts to accompany the shipment, as well as an on-scene emergency response vehicle. The state's inspection and escort program had been employed since 1983 for numerous shipments, including the ones from Three Mile Island in the 1980s, shipments to and from the GE-Morris storage facility, and university shipments. He said the state had experience inspecting rail and truck shipments, as well as many different types of casks. To date, over 450 highway and rail shipments had been inspected.

In the future, Mr. Runyon anticipated that the program would be applied to increasing numbers of shipments. He said the Illinois Department of Nuclear Safety (IDNS) was expanding the base of trained personnel from 12 to 24. He added that assistance to the state from the WIPP project would be used for in-house training of "junior" escorts. He pointed out that, because there were numerous high-population areas in Illinois, the state provided shippers a service in exchange for the fee.

Mr. Runyon said the state used TRANSCOM, which he considered to be a great tool. Through the IDNS's own satellite communications system, Mr. Runyon's office was able to access the system from a laptop computer. IDNS, the State Police, and the Illinois Commerce Commission were all involved in inspecting and escorting shipments.

On the subject of fees, Mr. Runyon said the per-cask fee helped the state to recover its costs for the inspection and the escort. He added that the fee had increased recently to \$2,500 for each truck cask; for rail, the new fee was \$4,500 for the first cask, and \$3,000 for each additional cask. Mr. Runyon said the fee helped to defray the cost of wear and tear on equipment, not the cost of actually purchasing the equipment. He said the per-cask fees came close to matching the actual costs associated with a shipment on the most direct route across the state. Longer routes, however, would result in the state not quite recouping its costs through the fee.

Mr. Blackwell asked why the charge for a rail shipment was higher than that for a truck shipment. Mr. Runyon said more people would be involved in a rail shipment — namely, FRA-certified inspectors at the Illinois Commerce Commission. He added that the state provided an emergency response vehicle along with the escort. He also mentioned that, due to the state's extensive transportation infrastructure, it would be infeasible to train every responder along potential routes.

Ms. Holm mentioned that the Mechanics Topic Group of the TEC/WG had looked at a fee-based system for providing funding to states. The group had rejected that option, however. Mr. Crose pointed out that the fee-based approach would generate revenue only when shipments took place, not beforehand. In addition, the fees would not enable the state to build a sufficient infrastructure.

Mr. Andrews asked how the state escorted a train. Mr. Runyon said a member of the IDNS staff would board the train near the state border at the time of inspection. That person would communicate with the escort team via low-band radio. Emergency responders would be stationed at pre-determined checkpoints along the route. Mr. Blackwell mentioned that, with the Concord shipment, there were some questions as to how best to escort the shipment. Ideas included stationing staff on the caboose or having a vehicle on the tracks ahead of the train. Eventually, the decision was made to have a vehicle shadow the train.

Mr. Runyon said the state did not routinely notify local governments about impending shipments. If a shipment were part of an ongoing campaign, or if there were a modal interchange in a particular jurisdiction, then the state might alert local officials.

Mr. Runyon said the state would expand the number of TRANSCOM users to include staff at the IDNS dispatch center. He said his office would work to enhance the ability of the staff in the inspection vehicle to locate shipments that were due for inspections. He urged DOE not to distribute the TRANSCOM software to local officials, citing concerns over the wide dissemination of safeguarded information. Ms. Holm said access to TRANSCOM had originally been granted to one agency in each state, then to two. To her knowledge, only two local users had access to the system.

On the subject of routing, Mr. Runyon said the state did not currently have any designated alternative routes. The state had, however, engaged in many conversations with the NRC regarding route approval.

If a shipment were to spark a public demonstration, Mr. Runyon said the State Police would handle the situation in the same way as any other demonstration. He said he would anticipate planning for a "big extravaganza" for the first shipment of any major campaign, but expected to see less interest on subsequent shipments.

In terms of emergency planning, Mr. Runyon said Illinois had an annex for radiological accidents in Volume X of the state emergency response plan. The state also had a good program for training hospitals in handling radioactively contaminated patients.

All IDNS inspectors and emergency responders were trained in health physics and emergency response, and were HAZWOPER certified, which means the staff had all received refresher training. IDNS staff would provide training for local responders, on an as-needed basis using a combination of resources. Mr. Runyon said the TEPP modules might be incorporated into the IDNS training materials. He also said the State of Illinois might be interested in conducting an emergency response exercise with the Naval Nuclear Propulsion Program, but he could not commit to doing so.

Mr. Runyon added that IDNS wanted to be consulted whenever training was conducted in the state. He described an incident in which the International Association of Fire Fighters (IAFF) trained local responders in the state under contract with DOE's Fernald site. IDNS staff observed the training, and noted that the IAFF instructors neglected to mention the state emergency response structure for nuclear accidents and the extensive resources available through IDNS.

Mr. Runyon then described the resources available at the Department of Nuclear Safety. In terms of staff, IDNS had a 24-hour radiological duty officer, a two-person initial response team (IRT), and a specially trained response team for chemical and/or mixed waste accidents (RACER). The staff was trained to assess conditions and potential impacts. IDNS had a great deal of equipment, including vehicles, sampling equipment, geographical positioning systems, mobile chemistry and environmental counting labs, and computer modeling software. Mr. Runyon commented that the abundance of nuclear power plants in the state was responsible for IDNS having this infrastructure in place. If it were not for the power plants, the IDNS program could not exist on a fee of \$2,500 per truck cask. He added that IDNS had hosted several tours of its facilities for international visitors.

Capt. Sever asked why the state escorted shipments. Mr. Runyon said it was state law to do so. In response to a question from Mr. Owen, Mr. Runyon said there were 11 people in IDNS that served as radiological duty officers. Each one was on 24-hour-call for one month at a time.

Mr. Strong asked, given the escort system, what Mr. Runyon saw as the minimum level of training necessary for local officials. Mr. Runyon said he thought all local responders should be trained to the awareness level. He added that Illinois could only train local responders in radiological response, not hazardous materials response. The state could not certify local officials as technicians because IDNS did not cover response to all hazardous materials incidents.

### *Nebraska*

Mr. Jon Schwarz (Nebraska) said the governor had appointed a state High-Level Waste Working Group two and a half years earlier. The group was still working out its strategy for conducting public information activities, particularly in areas that would be affected by shipments on I-80 or by rail. Mr. Schwarz added that, during training sessions for emergency responders, the state trainers did make it clear that the number and rate of radioactive materials shipments through the state would be increasing.

When a shipment was planned through the state, the Nebraska State Police would receive the notification and then pass it to the Emergency Management Agency and the Department of Health and Human Services. EMA would provide notification to the city, town, and county emergency management agencies along the route, but only if those jurisdictions had already received training. The public information officers within the Emergency Management Agency worked with the governor's office on public information activities.

With regard to demonstrations, Mr. Schwarz said the only large groups were located near Boyd County, which was the site of the proposed low-level waste disposal facility. Mr. Schwarz said the state would try to work with any activist group to a certain extent.

In terms of emergency response, the state did not have regional teams. The state maintained its own state emergency response team (SERT) of 33 people trained at least to the operations level. The team included staff from the State Patrol (carrier enforcement division), State Fire Marshall's office, and the Department of Environmental Quality. In the event of an emergency, the closest four SERT personnel would respond to the incident, evaluate the scene, and call in others as necessary.

A bill regarding a model mutual aid agreement was introduced last year in the Legislature, but eventually died. Mr. Schwarz said the bill would be reintroduced pass during the upcoming legislative session and had a good chance of success.

Regarding medical facilities, Mr. Schwarz said the University of Nebraska-Omaha Medical Center was designated by state statute as the facility for treatment of radioactively contaminated individuals. Other facilities had received training as well. Mr. Schwarz added that the state's Task Force had developed a radiological annex to the emergency response plan. The annex was being submitted to the governor's office for approval.

In the process of developing the annex, Mr. Schwarz had learned that the Departments of Health and Human Services and Environmental Quality, by statute, did not have authority for radiological emergency response. He said the Task Force was working to change this prohibition.

Mr. Schwarz said the Nebraska Emergency Management Agency conducted training annually as well as by request. He said the agency currently used the FEMA materials, but he was interested in using new, different materials, as well.

The state still used old civil defense equipment, and had the capability of calibrating it. He said there was a need for more low-level dosimeters, but the state did not currently have the funding to buy new equipment.

Mr. Schwarz said that, once a shipment was through the Omaha and Lincoln areas, there was no regulatory requirement to provide an escort. So far, the state had not conducted any rail escorts. For truck escorts, the Nebraska State Police would pick up the shipment at the state border then accompany it through highly populated areas. The state Task Force was in the beginning stages of assessing the situation with regard to fees. Mr. Schwarz also mentioned that I-80 was almost always under some kind of construction.

The Task Force was also addressing the subject of inspections. Mr. Schwarz said the state had CVSA-certified inspectors, but they were only certified to inspect the truck, not the package itself. He said the state would do what it could to accelerate planning to prepare for near-term shipments, but cautioned that only so much could be done in a short period of time.

On the subject of routing, Mr. Schwarz said I-80 was the major highway in the state. He added that State Highway 2 was being upgraded to four lanes from two. He said the state might look at this route for future shipments.

The state had one person highly trained in the use of TRANSCOM. Mr. Schwarz said the standard practice was to monitor shipments on TRANSCOM through the Lincoln and Omaha areas, then perform spot checks until they left the state.

### *Minnesota*

Mr. John Kerr (Minnesota) said Minnesota was not a corridor state for ongoing shipments. He noted, however, that Northern States Power (NSP) had been working on a private fuel storage facility in Utah, and that shipments to that facility could begin as early as 2003. Mr. Kerr added that the Minnesota Division of Emergency Management was responsible for coordinating state preparations for shipments. He said he thought NSP would be flexible and supportive of the state when it came time to ship. The utility had already held informational meetings with key state and local officials. He anticipated that the state would also develop its own public information materials as the project progressed. In reference to demonstrations, Mr. Kerr said he expected future activities to follow the example of the ones that accompanied the Monticello shipments in the 1980s.

On the subject of emergency response, Mr. Kerr said Minnesota had two types of hazardous materials regional response teams. Six performed chemical assessment, and four consisted of emergency response teams. The teams would have only a support role in the event of an incident. Mr. Kerr said the primary reliance would be on the Minnesota Department of Health, Department of Emergency Management, and others. Because of the nuclear power plants in and near the state, several hospitals were capable of handling contaminated patients.

With regard to the state's emergency response plan, Mr. Kerr said the policy was to maintain a single, all-hazard emergency operations plan. He anticipated awareness-level training for local responders, the state patrol, and other potential responders. He also anticipated that training would

be the responsibility of the Division of Emergency Management, the Department of Health, and possibly Northern States Power. He expected the state to use its in-house training materials.

Currently, the state had reasonably adequate equipment to meet the state's needs. He said local governments would need to rely on old civil defense equipment. The local governments were also responsible for calibrating their own equipment.

Mr. Kerr said the state had employed a "chase car" to escort the last set of spent fuel shipments in the state. He said the governor would make the decision regarding whether or how to escort new shipments. Mr. Kerr added that he was hoping to switch the fee structure so that the commissioner of Public Safety could use the fees to defray the costs for state preparations and response to incidents. Mr. Kerr said the state did not have any major issues with regard to infrastructure. He anticipated that the state would ask the FRA to inspect rail shipments.

Mr. Kerr said he did not foresee the state changing its current plans to accommodate near-term shipments. If anything, there would be a need to accelerate the schedule. In addition, the financial picture might change, especially in the event of shipments to a private facility (which would not be subject to assistance under the Nuclear Waste Policy Act.

Mr. Kerr said Minnesota had previously designated highway routes to be used for shipments. He said the state would probably insist that shipments avoid rush hours in the Minneapolis-St. Paul area. He added that the state did not yet have TRANSCOM, but was looking into obtaining the software.

### *Missouri*

Mr. Lange said there were several agencies in Missouri with some authority over radioactive materials shipments: Department of Natural Resources (DNR), Department of Public Safety (Emergency Management Agency [EMA]), and Department of Health (Division of Radiological Health). He said the DNR housed the hazardous materials teams. The EMA used TRANSCOM and was responsible for coordinating training. Health physics expertise was available through the Division of Radiological Health. In addition, several other agencies had minor roles to play. The Department of Economic Development was responsible for the truck and rail safety program. The Missouri Department of Transportation handled all road construction.

Mr. Lange said Missouri state law included radioactive materials in the definition of hazardous materials only if it were to be released in a transportation incident. A memorandum of agreement existed between the three major agencies. Mr. Lange said comprehensive planning would be limited until the mode and route were determined for specific shipments. WIPP was the reason for the state taking such a circumspect approach to planning. For those shipments, the state had begun preparations long the original route proposed by DOE, only to learn later that the department was planning to switch routes. He added that the state did not have any designated routes. He said the state would be opposed to the use of routes that would affect the cities of St. Louis and Kansas City. He added that the state would need funding to conduct comprehensive planning and to provide training to responders along potential routes.

Mr. Strong asked Mr. Lange whether it was possible to ship through the state without affecting either of the two major metropolitan areas. Mr. Lange reiterated that his state wished to see rail and highway shipments avoid St. Louis and Kansas City.

### *Michigan*

Mr. Strong said Michigan was like Minnesota in that, because of geography, it was not currently a corridor state for shipments. He said the Big Rock Point nuclear plant, in the far northern part of the state, was undergoing decommissioning. The other three plants in the state were located within 30 miles of the southern border of Michigan.

Mr. Strong said certain hazardous materials teams were located primarily in the southwest and the southeast. He said approximately 44 percent of the state's population was protected, but only about five percent of the state by area. The Michigan Department of Environmental Quality housed the state Radiological Protection Section. The Motor Carrier Division of the State Police had eight people throughout the state trained to the operations level.

Mr. Strong said the state had four annexes to the Michigan Emergency Management Plan. So far, nothing was directed specifically at radiological transportation accidents, but he thought pending legislation would require the development of a plan specific to transportation. He speculated that the legislation was not likely to pass, however.

Mr. Strong said the Big Rock Point Plant would be able to ship all its spent fuel in seven rail casks, so the state was planning to employ escorts for those shipments rather than train responders along the route. Mr. Strong said the hope was that this experience would help the state decide how to proceed with regard to escorts for shipments from the three southern plants. He said a total of three counties would be affected by shipments from the southern plants, which meant that training responders would not be a great burden. He added that, because of the nuclear power plants in the state, hospitals near the plants were already trained to handle contaminated patients.

The State of Michigan did not charge a fee for radioactive materials shipments. State legislation introduced the previous year did not include such a fee.

Mr. Strong said three of the four plants were located close to interstates. Two of the plants had operational rail lines. Shipments from the Big Rock Point plant would need to travel 30 miles on county roads and state highways to get to the nearest railhead. Mr. Strong said Michigan did not currently participate in the FRA's States Participation Program, but he anticipated the state would eventually become involved in inspecting both the vehicle and package. He said the Department of Transportation would perform CVSA-type inspections of shipments by truck. On the subject of routing, Mr. Strong said the state did not have any designated alternative routes. He added that coordinating with neighboring states to the south would be an integral part of any alternative route designations that the state might make.

Mr. Strong said the Special Operations Division and the Emergency Management Division each recently acquired the TRANSCOM software. He said the state was hoping to receive training for personnel in these divisions.

On the subject of communications, Mr. Strong said it was important to work with the utilities. He said his office participated on an ad hoc committee of state agencies, which included DOT, the State Police, and the Public Service Commission. This group also worked with Consumers Power Company.

Ms. Sattler noted that nothing was in the works in Wisconsin, Ohio, Michigan, or Iowa with regard to charging fees for shipments. Mr. Flater said Iowa would charge \$125 per hour per person to

escort a shipment. He said the structure was in place for doing so, but the state had not charged the fee yet because they had not exceeded the budget for this activity.

Mr. Blackwell asked what the states would like to see in terms of rail routing. He indicated that the routing paper produced by the TEC/WG was definitive for now, but might not reflect the consensus of all states. Mr. Owen asked whether the states had any say with regard to rail routing. Mr. Blackwell said they did not, but added that it was possible the FRA could receive direction to develop rail routing rules. He said the FRA had already taken a preliminary look at developing rail routing guidelines based on HM-164.

When asked for clarification, Mr. Blackwell said the FRA was operating under a worst-case scenario of 2003-2005 for a sharp spike in the number of rail shipments. He said the administration was trying to keep on top of this issue, because Congress might mandate rail routing rules due to the projected increase in shipments. When asked to define a "spike," Mr. Blackwell said his office currently monitored around 20 movements per year. A spike might entail an increase to 70-80 shipments per year. Mr. Flater cautioned that, if the FRA chose to develop rail routing guidelines, the states should definitely be involved.

Mr. Flater deferred presentation of the Routing Subcommittee Report and the Transportation External Coordination Working Group update until the next day. He then turned the floor over to Mr. Ralph Smith for an update on the Waste Isolation Pilot Plant.

At this point, Mr. Flater deferred the Routing Subcommittee Report and TEC/WG Update until later in the meeting.

## **DOE Program Updates**

### *Waste Isolation Pilot Plant*

Mr. Smith provided an overview of the Waste Isolation Pilot Plant program, which he terms "WIPP 101." He said WIPP would accept two types of transuranic (TRU) waste: contact handled, which was alpha-emitting, and remote handled, which was characterized by dose levels of 100 rems and above. Mr. Smith said contact-handled waste would be transported in TRUPACT II containers. The cask for remote handled TRU waste would be similar to the type of cask used to ship waste from Three Mile Island during the 1980s. This cask was expected to be ready for use by 2003.

Mr. Smith said his office had 15 TRUPACTs and was developing a smaller shipping container called a "half pack." This container would resemble a TRUPACT container, except that 36 inches would be taken off the top. The half pack would be used to carry heavier than normal waste drums and boxes. Each half pack would be capable of carrying seven drums of waste or one standard waste box.

Mr. Smith said the WIPP disposal facility was located on the northern edge of the Chihuahuan desert in southeastern New Mexico, about 22 miles east of Carlsbad. A total of 23 sites would ship transuranic waste to the site. Ten of these sites were considered "major generator sites," whereas the others were classified as "small quantity sites." All of the waste destined for WIPP was generated as part of the nation's defense complex. The disposal facility itself was located in a 2000-foot-thick salt bed, one half-mile underground. Four shafts connected the disposal facility to the surface.

He added that the facility was composed of panels made up of "rooms" measuring 300 feet by 33 feet by 13 feet. Each room was capable of housing 6,600 barrels of TRU waste. Mr. Smith added that the facility could withstand an earthquake measuring 6.0 on the Richter scale without sustaining

damage. Mr. Smith said WIPP had an allowed capacity of 6.2 million cubic feet of TRU waste. DOE anticipated approximately 4.6 million cubic feet of defense waste would be disposed of at the site. Mr. Smith commented that there was no technical reason for not using WIPP to dispose of other types of radioactive waste.

Mr. Smith said routing should be a dynamic process. He displayed maps showing the proposed routes from the small quantity sites. He said these routes were intended to follow the ones from major generator sites as much as possible. He added that states had veto authority over the suggested routes. Ohio, in fact, had opposed the route DOE proposed initially for shipments from the Mound facility.

Mr. Smith said the WIPP program would involve 38,000 shipments over a 35-year period. He speculated that January 1999 would be the earliest possible date for opening the site. He said there were several factors holding up the opening. For one, although many groups had lost standing to sue, there were still several major lawsuits pending in court.

On the subject of privatization, Mr. Smith commented that DOE was to report to Congress in early February regarding the status of the privatization effort. Mr. Smith predicted that, by early summer, DOE would have either a new contractor for WIPP transportation services or the same contractor under a new, expanded contract. The new contract would cover both transportation services and package procurement. He added that the current cost of a TRUPACT II container amounted to \$250,000. DOE had 15 in the existing inventory, and hoped to acquire 45 more under the new contract.

Another obstacle to opening WIPP was an injunction dating back to 1992, which prevented DOE from moving mixed TRU waste to the site until the State of New Mexico issued a RCRA Part B allowing the disposal of mixed waste. As a result, DOE could only ship non-mixed TRU waste to the site. Several of the major sites had non-mixed waste in their inventory, however characterizing the waste to the state's satisfaction would require some negotiation. Mr. Smith commented that, because even the mixed waste shipments would contain such a small hazardous component, he did not expect to have to placard the shipments for hazardous materials.

Mr. Smith mentioned that the first "live" shipment of TRU waste took place the previous year. The shipment went from the Teledyne Brown facility in Westwood, New Jersey, to Rocky Flats in Colorado. He said the program had spent well over \$100,000 just to move one barrel of waste. He added that DOE might move TRU waste from small generator sites to larger facilities simply because it was too costly to store the waste on-site or because of special agreements the department might have with certain states. As an example, Mr. Smith said the TRU waste currently housed at the Missouri University Research Reactor (MURR) would go to the Hanford site because that was where the waste originated. He said he would send Ms. Sattler all the information on the plans for this shipment.

Mr. Smith then turned to the subject of TRANSCOM, which was perennially a problem for WIPP. He mentioned that WIPP had numerous notification requirements. He said the eight-week rolling schedule of shipments was available through TRANSCOM, but cautioned that the system was not always reliable. DOE was creating an internet site, with appropriately firewalls, specifically for state access to information on WIPP shipments. He said the web site would list the shipments by site, chronologically from oldest to newest, and would list the states and tribes on the route. Mr. Smith said WIPP was paying for the production of this new site and would manage it, as well. He said

doing so would ease the burden on TRANSCOM to handle the volume of information WIPP that accompanied WIPP shipments.

A dry run to WIPP would take place on December 11. The dry run would involve a shipment going from Los Alamos National Laboratory on December 9. All the states and tribes on the corridors for WIPP shipments would be invited to participate. Because so many state representatives would be participating in the first CCTWG meeting on December 11, DOE planned to have a monitor available in Savannah for the CCTWG members to view the dry run.

On the subject of training, Mr. Smith said the Carlsbad Area Office was looking at how they conducted training. He said the WIPP program had trained 12,430 first responders. As a result of the high cost of training, WIPP had decided to start a train-the-trainer program, under which DOE would bring state personnel to Carlsbad for training, then send the people back to train others in their states. State trainers would receive a stipend, travel funding, plus a per diem allowance for expenses related to conducting training in the states.

Mr. Runyon asked Mr. Smith about the proposed schedule for shipping from Argonne National Laboratory in Illinois. Mr. Smith noted that each generator site needed to be ready to ship before WIPP could open a route. Mr. Smith said the CAO was trying to coordinate with all the facilities along a particular corridor so that it would be possible to open a route, move all the waste in a period of a few years, and close the route permanently.

Mr. Crose asked about WIPP's training. Mr. Smith said the CAO was still trying to figure out how best to do the train-the-trainer approach. By June, Mr. Smith hoped to have ready a written proposal for the train-the-trainer program. One of the items for consideration was how to cover the states' expenses related to training, since the federal government had restrictions on paying contractors. Mr. Smith said he had some concerns over the concept of the "umbrella grant" because WIPP had made commitments to the states of which DOE headquarters might not be fully aware.

In response to a question from Ms. Sattler, Mr. Smith said the State of New Mexico might issue the draft RCRA Part B permit in September 1999. He added that the state had threatened to pull staff off the permit application to work on verifying that any non-mixed shipments sent to WIPP before the permit was issued did not contain a hazardous component.

Ms. Sattler asked about a private facility in Texas that was licensed to store TRU waste temporarily. Mr. Smith said he had heard that the Andrews County facility did have such a provision in its license. Some people had speculated that DOE could use this facility to take TRU waste from Idaho, which must begin to move in early 1999 if DOE were to meet the terms of the Idaho Settlement Agreement. Under this agreement, DOE was obligated to begin moving TRU waste from INEEL by April 30, 1999, or else the state would not permit foreign research reactor spent fuel to go to the site. Mr. Smith said DOE had not decided whether to pursue the possibility of sending waste to Texas.

Ms. Holm said the Idaho Settlement Agreement had the effect of a court order. Ms. Sattler asked if DOE could take TRU waste from Idaho to another DOE facility to meet the terms of the settlement agreement. Mr. Smith said such a transfer was not likely, mainly because no other site would want to take the waste. He added that the transfer of TRU waste from MURR to Hanford was a different situation, since the waste was generated at Hanford.

### *Tritium-Production Program*

Mr. Steinhoff presented information on the commercial light-water reactor project, starting with an abbreviated version of "Tritium 101." Mr. Steinhoff said tritium was a radioactive isotope of hydrogen. Although tritium was not fissile and, therefore, could not be used to make a weapon, the material was nonetheless necessary to make the nation's nuclear weapons function.

Mr. Steinhoff briefly clarified that the factsheets he had distributed pertained to the full-blown project, whereas the scope of the environmental assessment for the lead test assemblies was limited to the shipments planned for the summer of 1999.

Tritium decayed at a rate of 5.5 percent each year, and the United States had not manufactured any since 1998. DOE had traditionally manufactured tritium in the K reactor at the Savannah River Site. Since 1988, DOE had been recycling tritium from dismantled weapons. Following the terms of the START I agreement, DOE would need to manufacture new tritium by 2005. Toward this end, in December 1995, the department proposed following, for three years, a dual-track strategy of using a commercial reactor and an accelerator to produce tritium. The three-year period would end this month, and Secretary Richardson was expected to decide which of the two options to pursue for future production.

Under NRC regulations, the tritium-producing burnable absorber rods (TPBARs) were designated as "safety-related basic reactor components." In essence, the TPBARs worked like burnable absorber rods or control rods in a reactor. Lithium 6 combined with neutrons to produce tritium. A zircalloy liner would trap the tritiated water, without any gas being produced. Mr. Steinhoff said the TPBARs had been produced at Pacific Northwest Nuclear Laboratories in Washington state, and had gone to Westinghouse-Columbia where they were inserted into new fuel assemblies. The four assemblies of new fuel were then shipped to the Watts Bar reactor in Tennessee for irradiation. These lead test assemblies (LTAs) would be removed early next year, cooled for several months, and shipped to Argonne National Laboratory-West in Idaho for examination. Eight of the 32 TPBARs would be trisected and sent to Pacific Northwest Nuclear Laboratories for further study.

Mr. Steinhoff said NAC would be the transportation services contractor for the shipments from Watts Bar to Idaho. NAC had produced a draft transportation plan, however it was not yet suitable for releasing for comment. He committed to providing the corridor states with a copy for review in the January-February time frame. He added that he fully recognized the value of input from the states on transportation planning matters. Mr. Steinhoff showed a map of the preliminary route and said he was interested in receiving input from the states. He hoped to finalize the transportation plan in March or April.

Mr. Steinhoff said that, as allowed by current laws and regulations, DOE would self-certify the NAC-LWT cask for use for the TPBARs. The goal was to complete the certification in June 1999, then conduct trial loading. As requested by the Western states, DOE would operate TRANSCOM while performing the dry run from Tennessee to Idaho. The actual shipments would begin in July and end in September. Mr. Steinhoff added that it was possible DOE would conduct a few shipments from Idaho to the Savannah River Site in 2004 to move the remaining TPBARs out of Idaho.

Mr. Steinhoff said that, during the production phase, DOE would irradiate up to 3,000 TPBARs per year in one or more of the Tennessee Valley Authority's reactors. The TPBARs would then go

to the Savannah River Site to recover the tritium. In response to a question from Ms. Sattler, Mr. Steinhoff said the transportation plan would be available for review in January or February, with the final to be distributed in March or April.

*TEC/WG Update, Senior Executive Forum, and Transportation Protocols*

Ms. Holm handed out copies of the list of TRANSCOM users, the Record of Decision on the disposition of plutonium residues, and her presentation on TRANSCOM and the TEC/WG. She first addressed the TEC/WG, including its membership and purpose. She said a growing focus of the working group was the topic groups, which had resulted from an evaluation of the TEC/WG process back in 1996. Ms. Holm said the current topic groups were Communications, Mechanics of Funding, Protocols, Rail, Routing, Training/Medical Training, and Tribal Issues. She reported on each group's recent activities.

Ms. Holm also reported on the Senior Executive Transportation Forum (SETF). She said the SETF was composed of DOE senior program officials. The group — which reported directly to the Deputy Secretary — was charged with addressing crosscutting transportation issues and developing consistent approaches and policies for transporting DOE materials. Some of the issues that the groups was currently addressing included funding and technical assistance, emergency management system training, packaging quality assurance, and transportation protocols.

Ms. Holm then discussed the status of the protocols. She said the first eight protocols were ready for review, and DOE would begin work on the next set of eight. Each protocol would start with a statement of what it was, the parties to which it applied, and the regulatory basis for the protocol. Ms. Holm said the draft protocols would be available in mid-December, and would be the subject of discussion during a conference call of the Protocols topic group in early January. Ms. Holm speculated that the protocols would ultimately turn into DOE transportation policy.

Mr. Steinhoff asked if DOE was doing what the states wanted in terms of standardizing transportation procedures on a department-wide level. Mr. Moussa said the department was, and several other committee members agreed. Ms. Holm said the Western states had suggested a graded approach. They felt that not every shipment or type of material warranted the same degree of attention or the same set of protocols.

Ms. Holm showed maps of the transportation infrastructure in the U.S. Mr. Blackwell noted that the FRA did not recognize the term "Class A" in reference to rail lines. Ms. Holm said she would update the map.

Mr. Runyon asked if there was a backup to TRANSCOM. Ms. Holm commented that TRANSCOM had a maximum capacity of 18 users. She said DOE was trying to increase this number, because the WIPP shipments alone would need more. Mr. Smith said all WIPP states would have access to WIPP shipments throughout their duration. Ms. Holm said DOE's policy on TRANSCOM was to limit access to the system to the affected state as well as contiguous ones. She said programming, funding, and system capabilities were the three key issues with regard to TRANSCOM. Ms. Holm added that DOE was working on an internet-based system, which would increase access to state users. She said the department intended to invest more resources into improving the system.

### *Civilian Radioactive Waste Management System*

Ms. Turner began by saying the OCRWM program had undergone a reorganization following the May "reduction in force." She said OCRWM had asked Congress for \$380 million in funding, but had received only \$354 million. As a result, OCRWM had eliminated storage and put the transportation program "in mothballs," where it would stay until DOE made a site recommendation to the president. She said there were four people still left on the transportation team at OCRWM. Ms. Turner was the last person focusing on transportation institutional issues. She added that the Waste Acceptance and Transportation division had gone from \$57 million in funding down to \$3 million in a period of four years. Most of the remaining \$3 million was dedicated to the waste acceptance side.

With regard to legislation, Ms. Turner said she was not sure what would happen during the current session of Congress. She mentioned that both the Senate and House had passed nuclear waste legislation in 1997, but not by a veto-proof margin. DOE was engaged in lawsuits in four different courts. According to the NWPA, the Court of Appeals was the prescribed first venue.

Ms. Turner said the viability assessment would be released later this month. In response to a question, Ms. Turner said it would cost approximately \$1 billion to go from the license application to construction of the repository. In July 1999, DOE expected to release its draft environmental impact statement on the proposed repository.

On the subject of transportation, Ms. Turner said Appendix 8 to Section C of OCRWM's revised request for proposal was the one of greatest interest. She said this section attempted to incorporate the language of the WIPP Program Implementation Guide.

Ms. Turner said comments on the most recent revision of the Section 180(c) policy were now available on OCRWM's web site ([www.rw.doe.gov](http://www.rw.doe.gov)).

Mr. Flater asked who would receive the fee for the repository license application. Ms. Turner said the NRC would be the recipient. Mr. Flater noted that federal agencies and nonprofit organization would be exempt from fees. He also referred to some correspondence dating back to 1968, to the effect that Nevada, as an NRC agreement state, might have jurisdiction over a low-level radioactive waste facility in the state. Ms. Turner said that was possible, but that would be a separate issue from the repository. She added that the NWPA required NRC licensing of the repository. Mr. Flater asked if the NWPA superceded the Atomic Energy Act. Ms. Turner said she would check on this matter.

### **MOX Fuel Program: A Midwestern Utility's Experience**

Dr. William Naughton, with ComEd in Illinois, presented information on the MOX Fuel Program. Dr. Naughton said he would focus on the DOE program rather than ComEd's perspective. He explained that, after participating actively in the program for four years, ComEd had pulled out of the program on September 1, 1998. The new leadership at the company had decided the program was not a good business venture.

Dr. Naughton noted that the program was highly political due to the fact that it involved international issues, nuclear reactors, and nuclear weapons. In anticipation of intense opposition from anti-nuclear groups, Dr. Naughton and his wife had penned the name Project PEACE for ComEd's part of the project. PEACE stood for Plutonium Excess Arms Converted to Electricity.

In the 1990s, the National Academy of Sciences (NAS) studied the available approaches to dismantling nuclear weapons and getting rid of the surplus plutonium. The NAS agreed that, especially with regard to the Russian surplus, this material posed a “clear and present danger” to national and international security. As a result, the Academy recommended a dual program of converting some plutonium to MOX fuel and immobilizing the rest. The surplus plutonium in the U.S. was under the control of the Department of Defense, but would be transferred to DOE’s control and monitored by the Department of State.

The NAS acknowledged uncertainties with both aspects of the dual program. With MOX, the issues were public acceptance and licensing. The technology for MOX already existed, so there would not be a need for additional research and development. For immobilization, the potential problems involved criticality and technical issues, with a great deal of research and development still necessary. Both options would be required to meet what was called the Spent Fuel Standard. In other words, the final material must be as “diversion-proof” as spent fuel. The NAS also recommended that a parallel program with Russia would be essential.

On the international side, Dr. Naughton identified several issues. First, neither the U.S. nor Russia would unilaterally dispose of weapons plutonium. In addition, disposing of this material would cost each country billions of dollars, which Russia would not be able to afford without international assistance. On the domestic side, anti-nuclear groups vigorously opposed the use of MOX fuel in the U.S. The material must be converted and fabricated into fuel, however there were not any operating MOX fuel fabrication facilities in the U.S. Despite the recommendation of the NAS and others, DOE would not follow the “quick-start European approach,” which would entail using an existing European fabrication facility. In theory, the fabrication facility would be constructed on DOE land and would require NRC licensing.

Dr. Naughton provided additional background information. In 1993, under the START I and II Treaties, the U.S. and Russia agreed to declare about 50 metric tons of plutonium (MTPu) of weapons material as surplus to their defense needs. Dr. Naughton explained that there was a parity issue associated with this declaration, since 50 tons of U.S. material was equivalent to 150 tons of Russian material, given the stock held by each country. In 1994, DOE formed the Office of Fissile Materials Disposition to manage the program and to determine the technical options available. In 1995, DOE issued an Expression of Interest on using commercial reactors to use MOX fuel. Fifteen utilities initially expressed interest, however only five remained.

In 1996, DOE performed the necessary environmental, technical, and non-proliferation studies. One year later, the department issued a Record of Decision (ROD) approving the dual-track approach. Under DOE’s plan, 33 MTPu would be suitable for use as MOX in light-water reactors, while 16 MTPu would be immobilized using vitrification in glass or ceramics.

In 1998, DOE issued a Request for Proposal for MOX fuel fabrication and reactor irradiation services with the planned contract award scheduled for the end of 1998. The RFP indicated that DOE was looking for “one-stop shopping,” with a consortium approach being preferred. As part of the consortium, DOE was requiring an experienced fuel fabrication company and three to eight NRC-licensed commercial reactors. The utilities would be reimbursed for all costs related to necessary modifications to the plants.

Dr. Naughton discussed the complexities of moving forward with the project. First, bi-lateral agreements would be necessary regarding the aforementioned parity issue. Second, funding would

be necessary for the program: international funding for the Russian part, funding from Congress for the U.S. part. The U.S. had already stated that it would not fund the Russian portion of the program. Both countries would need to develop MOX infrastructure. In Russia, for example, there were only six facilities capable of using the MOX fuel. Additional candidate reactors were located in the Ukraine, but it would not be politically feasible to use those facilities at the present time. Furthermore, the earliest date for loading the MOX fuel would be 2005. Intervention in the licensing process could cause a delay. Dr. Naughton noted, though, that if the project were identified as a National Security Issue, the schedule could be maintained.

Dr. Naughton then reviewed the prospects of success for the DOE plan. He said the key elements were leadership and funding. Regarding the former, the President had endorsed the ROD and the House and Senate appropriations committees had endorsed the MOX aspect of DOE's budget request. Presidents Clinton and Yeltsin had both signed an agreement to establish a detailed disposal plan by the end of 1998. In addition, Senator Domenici had taken the lead on behalf of Congress and would presumably be instrumental in assuring continued funding for the DOE program.

The tri-lateral Parallex Program (involving the U.S., Russia, and Canada) was scheduled to begin in 1999. A Canadian CANDU reactor would be the test reactor for the first disposition of both U.S. and Russian MOX fuel. In the U.S., the test MOX fuel would be fabricated at Los Alamos National Laboratory, and later shipped to Ontario. DOE was supporting the Russian weapons material conversion and the initial demonstration tests, so funding would not be an issue at this point. Lastly, in the U.S., the responses to DOE's request for proposal showed that there was sufficient fabricator and utility interest for executing the program in the U.S.

Regarding the consortia, Dr. Naughton mentioned that ComEd had, at one point, been a participant in all three consortia: Duke/Cogema, MOX USA, and Siemens. There were four MOX fuel fabrication companies in the world, and they had all joined one of the consortia at one point. Recently, however, Belgonucleaire had decided to pull out of the Duke/Cogema group. DOE disallowed the submission from Siemens on a technicality related to ComEd's decision to withdraw. Dr. Naughton had very recently heard that DOE informed MOX USA the department would no longer be pursuing that proposal, so Duke/Cogema appeared to be the only consortium left in the running. Dr. Naughton added that the fuel fabrication facility would likely be located at DOE's Savannah River Site.

Dr. Naughton described the program as a fuel supply program that would not be much different from the regular way utilities obtained their fuel. Few additional resources would be required to implement the program. The benefits to the utilities would include lower fuel costs and a potential image boost from participating in a program that promoted national security. The potential risks included program delays, which could lead to additional program management costs. Moreover, if the program were not perceived as furthering the goals of non-proliferation, the utilities could be vulnerable to a decline in image.

Mr. Strong asked about the waste implications of the MOX fuel program. Dr. Naughton said that the production of the fuel would produce a similar quantity of waste as the fabrication of regular fuel. The spent fuel left over from the process would contain some different isotopes than regular spent fuel and would be slightly hotter at first. After a short time, however, this difference in temperature would no longer be apparent.

Mr. Steinhoff asked which reactor would take the lead test assembly once the fuel fabrication facility began operating. Dr. Naughton said it would go to one of the consortium reactors, which in this case were owned by Duke. In response to a question from Mr. Lange, Dr. Naughton said the 33 tons of U.S. material consisted of weapons pits at the Pantex Plant in Texas.

Mr. Strong noted that the State of Michigan had taken an interest in the Parallex project because the shortest of the three proposed shipping routes for moving the MOX fuel passed through Michigan. The shipment would cross the Port Huron bridge, which was very heavily traveled. Governor Engler's office asked Mr. Strong to write a letter for the governor to send to the Secretary of Energy, inviting him to come to Port Huron for a meeting. Ultimately, the Secretary replied by saying that the route through Michigan would be withdrawn from consideration. Mr. Strong handed out a news article on the subject, and noted that the reporter repeatedly referred to the MOX fuel as "weapons-grade plutonium."

Mr. Schwarz asked for clarification on the situation with regard to reprocessing. Dr. Naughton explained that President Reagan had countermanded President Carter's moratorium on reprocessing. As a practice, though, the United States did not reprocess, mainly because political complications made it uneconomical to do so. Ms. Holm noted that Sen. Domenici was trying to move Congress toward a more holistic approach to energy. Dr. Naughton added that Sen. Domenici had organized a "nuclear caucus" in the Senate. He said he thought Lindsay Graham was doing the same thing in the House.

Mr. Blackwell asked why the U.S. needed to build a new fuel fabrication facility if older ones existed. Dr. Naughton said the existing facilities were hopelessly out of date.

#### **Federal Railroad Administration Safety Compliance Oversight Plan**

Mr. Blackwell announced that his office had a new address. He provided contact information for himself and several other members of the staff at FRA. He then summarized the contents of the new Safety Compliance Oversight Plan (SCOP). Mr. Blackwell said the SCOP expanded the FRA's previous one-page inspection policy for spent nuclear fuel and high-level waste shipments. The previous policy had been in place since the Three Mile Island shipments during the 1980s. The SCOP would serve as the baseline document for what the FRA would do with regard to future rail shipments.

Mr. Blackwell emphasized that the SCOP applied only to shipments of spent fuel and high-level waste. He also noted that the FRA did not intend to perform all the identified tasks for each movement of material. Rather, the tasks would be applied as warranted by each particular shipping campaign. As examples, Mr. Blackwell said that some tasks would be performed periodically (e.g., inspecting the tracks), whereas others could be done for each shipment (e.g., having a hazardous materials specialist inspect each shipment prior to departure). When asked if federal or state inspectors would perform the inspection, Mr. Blackwell said that the FRA did not differentiate between state and federal inspectors, provided the state inspector was certified under the FRA's States Participation Program.

Mr. Blackwell noted that the FRA had developed the SCOP as a result of the recent West Coast shipment of foreign research reactor spent fuel through Concord, California. The FRA was employing the SCOP for the East Coast shipments of foreign research reactor spent fuel, as well as

the movement of spent fuel by the Carolina Power and Light Company. He noted that the SCOP was a living document, which would undergo review and updating as necessary.

Mr. Blackwell then reviewed the contents of the plan, which contained safety enhancements in planning, training, inspection, and miscellaneous oversight. He emphasized that the plan added to the numerous procedures that the railroads and the FRA already followed to ensure the safety of rail shipments. The SCOP addressed 21 separate tasks in five categories. As an example of an enhancement to Operational Integrity, Mr. Blackwell said that the FRA might station an inspector in the carrier's dispatch center for the duration of the shipment. Regarding Emergency Response, Mr. Blackwell stressed that the FRA would not perform emergency response, but would work with the carriers and the shipper to develop adequate plans.

To ensure Route Infrastructure Integrity, the FRA would send a track geometry vehicle over the primary route and, if possible, the secondary route. He added that the cost of this procedure for the Concord shipment amounted to \$50,000. Because of the time and additional expense, the FRA had been forced to forego routine inspection of some track on the East Coast this year. The FRA was looking into ways to have DOE reimburse the administration for some of these expenses. Also, the FRA was planning to request additional funding from Congress, as well as to seek the assistance of the railroad companies (e.g., to use private equipment for the inspections).

Mr. Blackwell said the FRA considered Highway-Rail Grade Crossing Safety to be an issue related to public perception rather than the actual safety of the material being shipped. That is, the public would react very unfavorably to an accident involving a shipment of radioactive material hitting a vehicle or pedestrian. On the issue of Security, Mr. Blackwell said that the FRA would work with the carrier and the shipper to ensure that their plans were sufficient.

Mr. Owen asked how the railroad companies had reacted to the SCOP. Mr. Blackwell said his office had not yet registered a single complaint, and attributed this fact to the SCOP applying to FRA procedures, not those of the railroads. He said the FRA had sought and received input from the railroad companies as well as the unions.

Mr. Schwarz asked if there was a requirement for states to receive notification for rail shipments. Ms. Holm said this requirement applied to all HRCQ shipments, regardless of the mode of transport. She said the shipper was responsible for providing the notification, and added that the task usually fell to the contractor. Mr. Schwarz said an empty cask had been placarded radioactive and was headed east through Nebraska, however his office did not receive any notification. Ms. Holm and Mr. Blackwell speculated that the cask might have been an empty naval nuclear cask. Ms. Holm said she would check on the incident.

Mr. Blackwell announced that the DOT's Dedicated Train Study was still in the works. He said the Mode and Route Study had been completed and would be discussed at the upcoming TEC/WG meeting. The Research and Special Programs Administration had released a Hazardous Materials Shipment Study. In addition, the Radioactive Materials Regulations Review (RAMREG-001-98) had been updated for the first time since 1983 and was now available. In response to a question from Ms. Sattler, Mr. Blackwell said the FRA was still working on its memo regarding the right of states and tribes to stop and inspect rail shipments. He expected the memo to be ready for the January TEC/WG meeting.

### **Lessons Learned from the April 1998 Napalm Shipment**

Mr. Flater turned the floor over to Mr. Andrews, who reviewed the State of Indiana's experiences with the Navy's recent shipment of napalm. Mr. Andrews noted that he had compiled two packets of articles as handouts, along with a timeline showing the headlines of those stories. He explained that the Navy had contracted with PCI in northwestern Indiana to receive surplus napalm. The company intended to recycle the material into fuel for a cement kiln. Mr. Andrews said the napalm was in bulk form, with no explosives in it. He described it as gasoline with a polymer in to make it a jelly, and said he considered it to be safer than gasoline because it was not as fluid.

Although the material itself was not a matter for concern, Mr. Andrews felt the Navy's handling of the shipment was. In January 1998, concern began to surface regarding the proposed shipment. Mr. Andrews noted that, at an earlier date, the shipment was intended to pass along a route that included many neighborhoods characterized as "low socioeconomic status" (SES). When the route shifted to one that affected more medium- and high-SES areas, people began to take notice. In February, PCI initiated public relations activities in the area, but the effort proved to be too late in coming. By that time, the local news coverage consisted largely of napalm-related stories, with backdrops showing film footage of napalm bombs being dropped on Vietnamese villages during the war.

Adding to the problems was the Navy's refusal to talk about the shipment, even when the state and members of Congress asked for information. On April 16, while the train was en route, PCI canceled its contract with the Navy, allegedly as a result of pressure from the U.S. Environmental Protection Agency. After stopping for a short while, the shipment eventually headed back to California.

Mr. Andrews cited an editorial from the *Indianapolis Star* in that referred to the shipment as a "bogus crisis." The editorial compared the shipment to the handling of the VX nerve agent that was stored in the northwestern part of the state. Mr. Andrews said the state had been working for years with the local community on a plan for disposing of the nerve agent. The original plan — to transport the material — had met with local opposition, so the state had suggested incinerating the material. Objections to this alternative had led the state to examine the feasibility of solidifying the nerve agent.

Mr. Andrews said the lesson to be learned from the shipment was that education mattered. He suggested that the Navy or any other federal agency should start working far in advance of an activity such as this. Mr. Andrews speculated that, if the Navy had worked closely with elected officials and the media on planning for this shipment, things might have gone better. He acknowledged that opening up the process to this level of involvement might not eliminate all opposition. Nevertheless, doing so would produce a better outcome than keeping quiet about the shipment.

Ms. Turner commented about soliciting the support of the media. She pointed out that newspapers sold due to sensational headlines, not to reporters "doing a good job." Mr. Andrews said some journalists did act responsibly, even in the case of the napalm shipment.

A great deal of discussion ensued regarding public perceptions, the media, and ways to overcome the problem of issues becoming political. Dr. Naughton said he considered every action to have an emotional issue attached to it. Noting that most of the public appeared to get their news from television, he suggested that DOE and other agencies would need to come up with "sound bites"

that played well on the news. Since activist groups had mastered this trick, doing so would be the only way to gain a level footing in the public eye.

Mr. Scott Northard (NSP) recommended a book on this subject and provided ordering information:

*Responding to Community Outrage: Strategies for Effective Risk Communication*,  
by Peter Sandman  
2700 Prosperity Avenue, Suite 250  
Fairfax, VA 22031  
Stock # 167-CC-93  
703/849-8888  
703/207-3561 (fax)

Mr. Crose mentioned some of the state's activities related to educating schoolchildren on nuclear and other hazardous materials issues. He stressed that a good way to educate adults was to reach out to their children.

### **Utility Plans for Decommissioning, Storage, and Transport of Spent Fuel**

#### *Northern States Power*

Mr. Northard presented information on NSP's plans for storing and transporting spent fuel. He said NSP had become a nuclear utility in 1963 with the start of the Pathfinder reactor in South Dakota. Pathfinder had shut down in 1967, the spent fuel was shipped off-site in 1969, and the reactor had since been decommissioned. NSP had experience with one other shutdown and decommissioned reactor.

NSP's operating reactors were Monticello and Prairie Island. Both reactors had been designed with the intention of shipping spent fuel off-site for reprocessing. The Monticello plant began commercial operation in 1970. Originally, the spent fuel pool held 780 assemblies. NSP reracked the pool in 1977 to bring it to a capacity of 2,237 assemblies. From 1984-1986, NSP shipped 1,058 assemblies in 33 rail casks to the Morris storage site in Illinois. Mr. Northard noted that the license for the Morris facility would expire in May 2002 and that the relicensing process would have to begin soon.

The spent fuel pool at Prairie Island originally held 210 assemblies, but was reracked twice to bring the capacity to 1,386 assemblies. This capacity still would not be sufficient for the life of the plant, so NSP began investigating other options for increasing storage capacity. In 1989, the utility learned that consolidating the spent fuel was an option, but it would be labor intensive. The company decided to go with dry storage.

In 1993, the company had all the approvals it needed from the NRC and the state public utilities commission. NSP ordered the casks and completed construction of the facility. Later that year, the license was challenged by an anti-nuclear group, which cited a 1983 law that prohibited permanent storage of high-level radioactive waste in the state without legislative approval. The court agreed that, since DOE could not provide a date certain for removing the spent fuel from the site, the facility could be considered permanent and would, therefore, require legislative approval.

In 1994, the company received conditional approval from the Minnesota legislature for 17 dry storage casks at Prairie Island. This number of casks would allow operation of the plant through 2007. One of the conditions called for NSP to identify a suitable location in Goodhue County for

an off-site storage facility. Mr. Northard said this provision was later revealed to be intended to punish the citizens living near Prairie Island, who had supported the plant in its attempt to build an on-site storage facility. The utility complied with the provision and submitted an application for a site. In 1997, however, the Minnesota Environmental Quality Board overturned the siting process. The provision for an off-site facility was later removed from the law.

The 1994 legislation also required NSP to develop 400 MW of wind energy and 125 MW of biomass energy. Already, NSP had 200 MW of wind energy and 50 MW of biomass energy under contract. Mr. Northard noted that it cost approximately \$1 million per megawatt to install wind energy. An additional provision imposed a \$500,000 per cask per year penalty on the storage facility after January 1, 1999. According to Mr. Northard, NSP was prepared to pay \$3.5 million for the seven loaded casks currently on site. He said the fine would be deposited into a fund for renewable energy. In addition to the seven casks on site, Mr. Northard said NSP would load five more casks in 1999. The company also had an option to purchase five additional casks.

The Monticello plant had space available through 2006 with full offload capability. Mr. Northard said the plant could operate through 2010 (the end of its licensed life) with offload capability if NSP were to install one temporary rack in the storage pool. He stressed, though, that resolving the spent fuel storage problem was critical to the continued operation, life extension, and decommissioning of both the Monticello and Prairie Island plants.

Mr. Northard then turned to the subject of private fuel storage. He said NSP's interest in private storage was driven, at the federal level, by delays in DOE's Yucca Mountain project and the repeated failure to pass legislation regarding interim storage. From an economic standpoint, the high cost of a stand-alone facility made centralized storage an option worth pursuing. Mr. Northard also predicted that state and local opposition to on-site storage would only increase, both in Minnesota and elsewhere. All these factors pointed to a need for centralized, private storage.

NSP became involved in the concept of private storage in 1993 after the failure of federal efforts to identify a national storage site. In 1994, the Mescalero Apache tribe of New Mexico approached NSP about conducting a feasibility study of interim storage on the tribe's land. Now NSP was working with the Skull Valley Band of Goshute, which was a tribe of approximately 127 members living on an 18,000-acre reservation in west central Utah. Eight utilities were equity partners in the Private Fuel Storage (PFS) venture, which had already contracted with firms for handling facility design, cask manufacturing, legal services, and public affairs.

The proposed site for the facility was 70 miles southwest of Salt Lake City. Mr. Northard described the area as being surrounded by military and hazardous waste facilities. As examples, he mentioned the Dougway Proving Ground for biochemical weapons; the Tooele Army Depot, which housed an incinerator for nerve gas; two hazardous waste landfills; one hazardous waste incinerator; Envirocare (landfill for low-level radioactive waste); and Mag Corporation, a magnesium-extraction facility.

The proposed storage facility would be licensed for 40,000 MTU, which would amount to 4,000 casks. It would be reserved strictly for commercial spent fuel. In June 1997, PFS submitted a license application to the NRC, which the commission accepted one month later. In January 1998, PFS participated in a pre-hearing conference with the NRC. A total of 25 contentions were allowed, addressing safety, the environment, and security. Five interveners participated, all but one of which opposed the project. The four opposing interveners included the State of Utah, local landowners,

two tribal members, and another tribe near the border of the reservation. Mr. Northard said public hearings would be held in mid- to late 1999 in Salt Lake City.

Mr. Northard said PFS had been engaged early on in local outreach. He provided website addresses for more information on the project: [skullvalleygoshutes.org](http://skullvalleygoshutes.org) and [privatefuelstorage.com](http://privatefuelstorage.com).

Rail was the preferred mode for shipping to the site. Current project activities included preparing to construct a rail spur to the site off the Union Pacific line that ran north of the reservation. PFS applied to the Bureau of Land Management for permission to construct the spur. An alternative plan was to construct a heavy haul transfer facility. PFS also was continuing site evaluation activities and working to improve the project design. The goal was to begin operation in 2002 or 2003.

Mr. Northard said that, in 1998, the Utah Legislature had passed several resolutions opposed to the site. In addition, the legislature passed a bill that imposed large fees for storage and transportation of spent fuel in the state. He speculated that this legislative activity was an attempt to “throw roadblocks” in front of the project. He said PFS hoped to work with the state on matters related to transportation. He noted that the state had transferred a county road back to state ownership to gain more control over access to the site. Mr. Northard said that, although PFS had worked closely with the public and government officials locally, the group still had much work to do at the state level.

Mr. Northard described the benefits of the PFS project. First, the utility partners would all benefit from the lower cost of centralized versus on-site storage. Second, PFS was paving new ground on licensing for DOE and other organizations that might construct storage facilities. In addition, the work PFS had done on engineering studies had helped to set a benchmark for a federal site. Mr. Northard said that DOE’s 1994 estimate for the cost of an interim storage facility had been \$475 million. After reviewing some of NSP’s work, DOE was now estimating the cost to be closer to \$177 million. Furthermore, the PFS facility would enable utilities to continue operating economical units, and to consider extending the lives of these units. Lastly, private storage would provide for timely, cost effective decommissioning.

Mr. Northard commented briefly on NSP’s lawsuit against DOE. After the courts declared that DOE had an unconditional obligation to accept spent fuel beginning on January 31, 1998, several utilities brought suit to force DOE to live up to this obligation. On May 8, 1998, however, the U.S. Court of Appeals refused to order DOE to move the spent fuel from nuclear plants. Instead, the Court directed the utilities to pursue remedies with DOE under the Standard Disposal Contract. On May 18, 1998, the utilities rejected DOE’s proposal of allowing the partial escrow of funds because it also entailed reducing DOE’s obligation to remove the spent fuel. NSP and other utilities filed claims for damages in June 1998. NSP’s estimated damages exceeded \$1 billion. The case was still pending. Just recently, the Supreme Court had declined to hear a petition by the states to force DOE to accept spent fuel immediately. Mr. Northard said this decision was disappointing, however it did not undermine the court’s earlier decision regarding DOE’s unconditional obligation to accept spent fuel.

Mr. Northard concluded his presentation by saying NSP would continue its on-site storage activities, continue support for legislation to revise the Nuclear Waste Policy Act, and continue support for the lawsuits against DOE. In addition, NSP would continue its leadership of the PFS efforts in Utah and explore other options for interim storage.

Ms. Elizabeth Helvey asked Mr. Northard if PFS was planning to conduct any emergency response training or public education activities along the corridors for shipments to the private facility. Mr. Northard said there were not any plans in place to do so. He admitted that PFS was just getting started on the project's transportation program. He said PFS was working with the Association of American Railroads (AAR) on the specifications to which PFS would commit in the licensing process. Already, PFS was committed to using dedicated trains, and the group would try to use the best available technologies. Furthermore, PFS was supporting AAR's attempts to do away with the stand-and-pass rule, the 35-mile-per-hour speed limit, and possibly some other requirements. In response to a question, Mr. Northard said PFS anticipated moving three to five casks per shipment, with one shipment taking place every two to three weeks.

Mr. Blackwell asked which utilities were involved in the project. Mr. Northard listed the utility partners:

- American Electric Power
- Consolidated Edison
- Dairyland Power Cooperative (Wisconsin)
- GPU Nuclear
- Illinois Power Company
- Northern States Power
- Southern California Edison
- Southern Nuclear Operating Company

Mr. Strong noted that the proposed facility would be able to accept up to half of the nation's commercial spent fuel. He wondered whether there were provisions for adding other utilities to the venture. Mr. Northard said there were, but added that the primary interest was meeting the near-term storage needs of the eight utility partners. Mr. Strong said he was surprised that Consumers Power (Michigan) was not involved in the project. Mr. Northard suggested that other utilities — such as Consumers Power — might eventually be interested in the project, but currently were focusing on forcing DOE to take the spent fuel.

Mr. Blackwell told Mr. Northard he would welcome input from NSP and its partners on the Safety Compliance Oversight Plan. Ms. Holm asked about the casks PFS was planning to use. Mr. Northard said Holtec International and Sierra Nuclear Associates had designs for dual-purpose casks in the licensing stage. The capacity of the casks would run around 24 PWR/56 BWR assemblies. Mr. Eric Meils asked when the licensing and fabrication was expected to begin. Mr. Northard said Holtec had received a draft certificate of compliance on the HISTAR model, and the application for the HISTORM storage overpack should be completed next year. Sierra Nuclear was expecting the TRANSTOR model to be licensed by 2001. He said PFS was hoping to use local companies to manufacture the casks, which would provide jobs for the area. He said it would take 18 months from start to finish to produce the casks, which meant that Sierra Nuclear and Holtec would need to start identifying manufacturers soon.

In response to a question, Mr. Northard said Tooele County had one of the best emergency response teams in the country, largely due to the industry in the area. In response to a question from Mr. Blackwell, Mr. Northard said that PFS was planning to build a 23-mile spur to the site. He added that the cost would be a little less than the \$1 million per mile that Mr. Blackwell had estimated.

Mr. Andrews asked who would provide assistance to the states to prepare for shipments to the proposed facility. He added that DOE would not be obligated to do so, since the facility would be private. Mr. Northard said PFS anticipated having to assist the states in some way, although the group was only now beginning to work on this part of the project. Mr. Andrews pointed out that 2002-2003 was coming up very quickly and that it would take time for the states to prepare their emergency response resources. Mr. Crose agreed, and said the state governors might take an interest in forcing DOE to provide some financial assistance. He noted that the ratepayers had contributed to the Nuclear Waste Fund, and that having PFS provide financial assistance would mean the ratepayers would be paying twice for the same service. Ms. Turner pointed out that it would take an act of Congress, namely revising the Nuclear Waste Policy Act, to make the use of the Nuclear Waste Fund for this purpose an acceptable option.

Mr. Strong mentioned that the committee was on record, through a resolution, in support of DOE providing assistance under Section 180(c) for shipments to federal or private facilities. Ms. Holm reiterated Ms. Turner's concern over the use of Nuclear Waste Fund money, and added that the proposed umbrella grant could provide assistance to the states. She said the money would not be intended to support the private facility shipments, but that many of the corridors would be the same. The committee then discussed the need to address these issues directly to Congress and the region's governors.

#### *ComEd*

Dr. Naughton said utilities had several options for increasing spent fuel storage capacity: re-racking the pools, transferring spent fuel to other units, and interim storage (either on- or off-site). He mentioned that all 12 of ComEd's nuclear units had re-racked their spent fuel storage pools at least once.

Dr. Naughton quickly reviewed the status of legislation. He said Illinois's U.S. Senators had split their votes on S.104. Sen. Durbin had cited concerns about transportation issues as one of his reasons for voting against the bill. Dr. Naughton said the bill had been withdrawn this year, and that there would be another attempt in the following year. He mentioned that the Nuclear Energy Institute was heavily involved in the effort to pass legislation.

Dr. Naughton reviewed the current workload at the NRC's Spent Fuel Project Office. He said six dual-purpose cask applications were under review, all of which were planned for use at one or more sites:

- Holtec HISTAR 100 System (Dresden/PFS)
- NAC MPC System (Yankee Rowe)
- NAC UMS System (Palo Verde)
- SNC TRANSTOR System (Trojan/PFS)
- Vectra MP-187 System (Rancho Seco/TMI-2 fuel at INEEL)
- Westinghouse WESFLEX System (Big Rock)

In addition, Dr. Naughton said there were eight single-purpose cask applications being processed. Some of those on the NRC's docket were not affiliated with a utility project and so were therefore given a lower priority. Dr. Naughton said there were 11 independent spent fuel storage facilities operating as of August 1997.

ComEd planned to develop dry storage capacity for the spent fuel from the Dresden 1 reactor. Dr. Naughton said the Dresden plant, which was the nation's first commercial nuclear plant, operated from 1960-1978. A total of 889 assemblies from Unit 1 were stored at the site, some inside the pools for Units 2 and 3. ComEd was pursuing dry storage under the 10 Part 72 general license, which allows NRC licensees to utilize NRC-licensed storage technologies without first obtaining a site-specific license. ComEd had contracted with Holtec International to use the HISTAR 100 dual-purpose cask, with U.S. Tool & Die set to be the manufacturer. The storage pad for the casks would be located within the protected area of the site.

Dr. Naughton said the project was at the stage of prototype construction. The cask would be used to verify design requirements and manufacturing processes, as well as for dry run training of the staff at Dresden 1. Dr. Naughton said that, over a decade ago, some of the spent fuel from Dresden 1 had been shipped to West Valley and back. As a result, the fuel was not in the best shape. The first cask loading was currently scheduled for 2000.

Dr. Naughton concluded his presentation by noting that, by 2015, all operating nuclear plants in the U.S. would lose full-core offload capacity.

Mr. Strong asked why there were so many different dual-purpose designs undergoing licensing. Dr. Naughton said competition was the driving force. He said ComEd chose a dual-purpose design in the hopes that the spent fuel would not need to be repackaged prior to shipping it to the repository. Ms. Holm said the desire to keep exposure "as low as reasonably achievable" was the reason behind DOE and the utilities not wanting to repackage the spent fuel. Ms. Holm asked Dr. Naughton whether DOE had been involved with the vendors of dual-purpose systems in coordinating their designs with the needs of the Civilian Radioactive Waste Management System. Dr. Naughton said he did not think there had been much discussion of this subject, perhaps due to the ongoing litigation.

### **Committee Discussion**

Mr. Flater announced that committee members should get their reimbursement request forms to Ms. Sattler by the end of the calendar year to ensure payment.

#### *Funding Shortfall*

Mr. Flater addressed the current funding shortfall. He urged the committee and the staff to be creative in identifying new sources of funding to make up the shortfall. Ms. Holm again mentioned the possibility of umbrella grants becoming a reality, but she cautioned that this funding would not be available for another year or so. Mr. Steinhoff suggested that his program might be able to help the Midwestern states, but only to a limited extent. The committee agreed that identifying new sources of funding for the transportation project should be a priority.

#### *DOE Protocols*

Ms. Sattler explained that the TEC/WG would organize a topic group to address the DOE protocols, and asked for volunteers. Mr. Owen asked what would be involved in representing the committee on the topic group. Ms. Sattler said the representative would be expected to participate on monthly conference calls and, funding permitting, attend TEC/WG meetings twice per year as long as the topic group continued to meet. After much discussion, Mr. Crose volunteered to represent the committee on the topic group. Ms. Sattler, Mr. Flater, and Mr. Crose would attend

the January TEC/WG meeting in Jacksonville. Ms. Sattler asked for one more volunteer, and both Mr. Kerr and Mr. Lange offered to attend the meeting. Ms. Sattler said she would work things out with the two gentlemen.

Mr. Flater mentioned a matter of concern that had come up with regard to the Training Topic Group. He noted that DOE was holding a meeting the following week to review the 1,500 comments the department had received on the draft TEPP training modules. Mr. Flater said his group had put quite a bit of work into the modules, and was surprised to learn that this meeting would not include state representatives. Ms. Holm assured Mr. Flater that he and the other topic group members would have a chance to see all the comments DOE received on the draft modules. She explained that the aforementioned meeting was intended to group the comments into categories prior to the January meeting of the Training Topic Group in Jacksonville.

#### *TRANSCOM Training*

Ms. Holm announced that DOE was interested in scheduling a TRANSCOM training session in Chicago in the March time frame. Ms. Sattler offered to help DOE organize this training session. The states in attendance reported the potential number of seats they would like to reserve at the training session. The group concluded that up to 30 people from the Midwest would be interested in training. Ms. Sattler suggested that DOE contact the attendees of the April 1998 training session in Albuquerque for tips on how to improve the training session. She noted that she and Mr. Flater had attended that training session and had come away disappointed. Ms. Holm agreed that it would be a good idea to solicit feedback from those receiving training.

#### *1999 Committee Appointments*

Ms. Sattler mentioned that she would be sending letters to the newly elected governors in the Midwest, seeking new appointments. She said she would send copies of the letters to the affected committee members for their information. Mr. Pearce asked to see a copy of the draft letter prior to Ms. Sattler mailing it. Ms. Sattler agreed to provide draft letters to all committee members from states with new governors. She would incorporate comments from the committee into the final letters.

#### *Next Meeting*

There was much discussion over the location for the next meeting. Ms. Sattler noted that a spring poll of the committee had placed Kansas City next in line for meeting locations. Following Kansas City were Milwaukee, Detroit, Minneapolis, and Omaha. The committee agreed to meet in Kansas City during the spring of 1999. Ms. Sattler would send out calendars to help identify suitable dates.

There being no further questions or comments, Mr. Flater adjourned the meeting.

Prepared by Lisa R. Sattler