

**MINUTES  
of the  
THIRD MEETING  
of the  
RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE**

**August 2, 2016  
Carlsbad Field Office Auditorium  
U.S. Department of Energy  
Carlsbad**

The third meeting of the Radioactive and Hazardous Materials Committee (RHMC) was called to order as a special subcommittee by Representative Cathrynn N. Brown, chair, at 10:00 a.m. on Tuesday, August 2, 2016, at the auditorium of the Carlsbad Field Office of the U.S. Department of Energy (DOE) in Carlsbad. Representative Brown welcomed all and asked committee members to introduce themselves.

**Present**

Rep. Cathrynn N. Brown, Chair  
Rep. Eliseo Lee Alcon  
Sen. Gay G. Kernan  
Sen. Carroll H. Leavell  
Rep. James G. Townsend

**Absent**

Sen. Daniel A. Ivey-Soto, Vice Chair  
Sen. Ted Barela  
Sen. Carlos R. Cisneros  
Rep. Stephanie Garcia Richard  
Sen. Richard C. Martinez  
Rep. G. Andrés Romero  
Rep. Larry R. Scott

**Advisory Members**

Sen. William F. Burt  
Sen. Ron Griggs  
Sen. John Pinto  
Sen. Nancy Rodriguez  
Rep. Jim R. Trujillo

Rep. David M. Gallegos  
Sen. Stuart Ingle  
Rep. Rod Montoya  
Sen. William H. Payne  
Rep. Nick L. Salazar  
Sen. Clemente Sanchez

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Renée Gregorio, LCS

**Guests**

The guest list is in the meeting file.

**Handouts**

Handouts and other written testimony are in the meeting file.

**Tuesday, August 2**

**New Mexico Department of Environment (NMED)/DOE Settlement**

Kathryn Roberts, director, Resource Protection Division, NMED, introduced other staff who accompanied her: Butch Tongate, deputy secretary, NMED, and Michaelene Kyrala, legislative liaison. Ms. Roberts began by reviewing the settlement agreements made with the DOE and signed in January. She said that there are two agreements, one with the Waste Isolation Pilot Plant (WIPP) and one with Los Alamos National Laboratory (LANL). The April 30, 2015 principles of agreement provided a framework for the settlement agreements, which identify corrective actions needed and specify supplemental environmental projects (SEPs). She added that the NMED has complete enforcement capabilities for noncompliance on the agreements. She discussed the parties for each agreement: for WIPP, the parties are the NMED, the DOE and the Nuclear Waste Partnership (NWP); for the LANL agreement, the parties are the NMED, the National Nuclear Security Administration (NNSA) of the DOE and Los Alamos National Security. Ms. Roberts pointed out that these two agreements are funded from two different pots of money — one from the NNSA and the other from environmental management — and that there are different restrictions on how the money can be utilized.

Ms. Roberts indicated that both settlement agreements amount to a total of \$74 million in improvement projects in the Carlsbad and Los Alamos areas. She said that each SEP has a team assigned to it, made up of the DOE, contractors, the NMED and some outside stakeholders. Each team also has an NMED team leader who coordinates the meetings, focuses the discussions and has final decision-making capability for the SEP. She then gave a brief overview of the project breakdown, saying that \$34 million was allocated to LANL and \$39.5 million to WIPP.

Significant progress has been made at WIPP since January of this year, Ms. Roberts said. In giving an update on the projects, Ms. Roberts stated that the first phase of the north access road project is completed; the surface overlay is the next phase, which should begin in mid-August and take 30 days to complete; the third phase is the striping, and it should take three weeks to complete. Mid-October is the hoped-for completion date, she added. The total cost of these phases amounts to \$6.6 million of the \$7.2 million allocated. Other projects at WIPP include: the emergency operations center, which needs a backup generator; emergency responder training, which was funded at \$1 million and is complete; and the triennial review, which is designed to be an independent look at systems and processes to identify problems early. The scope of work for this review, she said, is due to the NMED by January 22, 2017, and the first review should be completed by September 30, 2018.

Next, Ms. Roberts reviewed the status of projects in Los Alamos, which include: road improvements to WIPP routes in and around Los Alamos, for which a final determination of projects is close, and for which a document that includes all deadlines, dates and projects is being worked on now; structures for watershed enhancement to control the water flow in the canyons, including developing a storm water engineering structure work plan; water surface sampling to close a data gap; water line replacement; and a triennial review, which has to be completed by

September 30, 2018. Ms. Roberts stressed that teams of people are collaborating to achieve these goals.

Committee members engaged in questioning and the following points arose:

- clarification of road projects around the WIPP site (a map was provided) and that the New Mexico Department of Transportation (NMDOT) is the final decision-maker on which roads are improved, with consultation with the NMED;
- the dangerous condition of State Highway 128, which is a primary access road to WIPP, yet this road does not appear to be slated for funding; and
- the allocation of \$7.2 million for roads, for which it is hoped that the remaining funds will be given to the NMDOT by the end of 2017.

### **WIPP Status Report**

Todd Shrader, manager, Carlsbad Field Office of the DOE, gave an overview of projects at WIPP and stressed that the workforce has been quite dedicated in its pursuit and management of safety concerns. He spoke of the document safety analysis in which all consequences are analyzed for potential accident scenarios and a document is provided for safety oversight. In describing cold operations, Mr. Shrader said that this is a chance for operators to practice procedures of safety management and emergency response in a simulated manner. After this, there is a need to test the systems and complete a management self-assessment, which is an independent review followed by corrective action. This most extensive assessment is conducted by the WIPP management and operations contractor, the NWP, and this work will confirm when operations are ready to begin again.

All of this assessing will eventually lead to a return to waste emplacement operations, he added, but this will not happen for a number of years. He said that there are still contaminated areas at WIPP and that waste cannot be moved into these areas. Many panels remain closed, and Mr. Shrader reviewed the status of the waste disposal panels. He stressed that WIPP is now only half full and that a map of the WIPP site 30 years from now will look vastly different from the map he provided today. He added that the corrective action schedule is now being analyzed along with the risks associated with each corrective action to determine how the current schedule needs to be adjusted. Challenges that are still present and that can impede the schedule include weaknesses in the ventilation system, ground control in waste areas, the breaking of roof bolts and floor heave.

He spoke of changes to the DOE's transuranic (TRU) waste program, which include increased oversight. There is a need to ensure that WIPP's processes and procedures are in place. He said that the new waste acceptance criteria document (WAC) was issued on June 27, includes all requirements for the movement of waste and that it became effective July 5. The WAC includes accident investigation board findings. Mr. Shrader reviewed the new requirements, which include: enhanced acceptable knowledge, chemical compatibility evaluations and waste characterization programs that ensure knowledge of oxidizing chemicals in the waste stream.

Also, generator site technical reviews are done initially at sites and then followed by periodic reviews. He added that these reviews will likely be done at both sites before any shipments are made even though this is not a requirement of the WIPP WAC.

Mr. Shrader reviewed the SEPs currently in process, which include construction of the north access road and training and equipment projects at WIPP and other local mines. He ended by saying that it will take two to three months to empty out the waste handling building, and, after that, shipments of up to five per week can begin. He added that the "choke point" is not the shipments themselves, but getting the waste underground.

Committee members' questions explored the following topics:

- gap analysis done on waste streams that have been previously certified;
- the need for interim ventilation systems before a permanent one is installed;
- the target date of December 12 for opening, although this date is being re-evaluated;
- waste from the Waste Control Specialists (WCS) site will move to WIPP at some point;
- replacement of bolts and measurements done to measure even minute changes; and
- recovery of some or all of the WIPP mine.

### **Carlsbad Brine Well Status**

Jim Griswold, chief, Environmental Bureau, Energy, Minerals and Natural Resources department (EMNRD), began by saying that he would limit his talk to the technical aspects of the brine well. Mr. Griswold added that Secretary David Martin retired from the EMNRD at end of June, which is the only reason he was not in attendance. Mr. Griswold showed a map of the area and pointed out the main cavern area in green on the map. The red area, he pointed out, indicates the partial removal of salt in that area where brine has permeated the rocks. If the area were to fail, there would be a significant hole in the green area, with cracks in the red area.

Mr. Griswold spoke of the work on the early warning system, which includes instrumentation that monitors the stability of the cavern and tilt meters, pressure transducers and temperature gauges. He said that all instruments are tied into an automated system that, when it detects a change, signifies an "event", at which time reasons are sought out for such an occurrence. The system notifies the EMNRD on a daily basis, he added, and each event is interpreted. There are also multiple sensors that notify Eddy County of the need for road and canal closures as well as the need to move people away from the area.

He next spoke of the microseismic monitoring system that is in place to detect very small earthquakes. He said that there are four off-site stations for monitoring and triangulating locations of fracturing in the subsurface. There is also a surface filtering device to screen out traffic noise, for example, and to improve the accuracy of the system.

In discussing the stability of the cavern itself, Mr. Griswold said that a feasibility study was done in 2014 for the site, which confirmed that the cavern is not stable and that it would likely fail between 2023 and 2038. He added that in late 2014, these calculations were refined and it was determined that the failure could occur by 2021. The area is potentially five years out from a collapse, he pointed out. Also, the measurements of pressure changes and microseismic data show an increased probability of collapse. He depicted the situation as being much like an old cartoon of coyote and roadrunner, where spires of sandstone tenuously hold a rock on top of it and asked what the feather is that pushes it over the edge. In other words, collapse is imminent!

Mr. Griswold reviewed the data leading to this conclusion, which include a recording of cabin pressure on a daily basis since 2010 and show that salt creep is primary. He also pointed out that at each drop in pressure, a sizable microseismic event occurred at the cavern and that, after these events, the pressure just does not return. He showed a map that indicates the microseismic events that occurred in the last year and a half. He concluded by saying that the working hypothesis is that brine is seeping into the adjacent salt and rock formations at the north end of the cavern, which causes drops in cavern pressure and the release of seismic energy as fractures form. This indicates instability, and it appears that seismic activity is episodic. He said that, at present, the area is experiencing a quiet period, but it is expected that activity will increase in the fall.

Committee members asked several questions and the following points arose:

- cavern operations permitted by the state in the early 1980s predated the federal Clean Water Act of 1977;
- a city zoning permit originally allowed mining to occur;
- where the active brine facilities are and the difference in the depths of salt formations in different areas;
- the storage of gas in former brine caverns;
- legislation to establish the Carlsbad Brine Well Authority and a suggestion from the chair that the RHMC send a letter to the attorney general requesting an opinion on liability issues related to this issue;
- the difference between a signal and an event, which are two different alarms, and a signal that shows any fluctuation but may not rise to the level of an event;
- the options considered once it was determined that the cavern was collapsing; and
- the need for a solution and the importance of an attorney general opinion.

### **Interim Storage — Eddy-Lea Energy Alliance (ELEA)**

John Heaton, chair, Carlsbad Nuclear Task Force, stood in for Joy Russell of HOLTEC International and reviewed possibilities for interim storage of waste. He discussed the need to have access to the federal Nuclear Waste Fund established under the Nuclear Waste Policy Act of 1982, but because interim storage is not considered a repository, this fund cannot be tapped. A geologic repository is not a current option and is expensive, and although WIPP is an option

for storage at some point, at present only a square mile of the available 16 square miles is being used at WIPP. Mr. Heaton pointed out that new reactor technology is being developed that could burn spent fuel. He added that there are 64 interim storage sites around the country that are all similar to the consolidated interim storage (CIS) facility being discussed in New Mexico, with the exception of the need for stronger security here.

Mr. Heaton reviewed the reasons that the state needs interim storage, which include that CIS complements a future repository and is a safe, secure way to age the fuel before storage at a more permanent site. Also, CIS would allow the DOE to begin taking spent fuel and help to reduce the money currently being spent on lawsuits, which is projected to amount to \$22 billion by 2020 and even more in the future. He added that CIS provides flexibility in terms of recycling, research and disposal of spent nuclear fuel and that there are really no other solutions.

In reviewing where the state is today in relationship to the process around setting up CIS, Mr. Heaton said that both houses of Congress have produced comprehensive bills, but to no avail. U.S. House Energy and Commerce Committee Chairman Fred Upton and Environment and the Economy Subcommittee Chairman John Shimkus are focused on Yucca Mountain issues to the exclusion of other issues, Mr. Heaton added. Also, Senator Lamar Alexander is putting together another CIS bill, Mr. Heaton indicated. The U.S. House of Representatives is also working on a bill related to Yucca Mountain issues, which may include CIS, he stated. The Office of Nuclear Energy of the DOE is beginning a consent-based siting process and is looking for interim storage and repository sites across the county, he indicated. The DOE's interest is in a defense-only repository, meaning it advocates storing defense fuel independently of spent fuel, and Mr. Heaton said that it makes sense to bifurcate.

Mr. Heaton next spoke of the makeup and formation of the ELEA and the reasons for choosing the ELEA interim storage site. He thanked committee members and the legislature for last year's memorials and for their support. He pointed out the map of the southeast's nuclear corridor, which shows the location of the ELEA site. He next discussed the history and ratings of HOLTEC International, which was established in 1986 and has the highest industrial credit rating. HOLTEC is currently building a huge facility in New Jersey for small modular reactors, he added. Next, he reviewed construction of the spent fuel canister and what would be included in phase 1 construction of the facility. He pointed out that the construction of the first unit on 50 acres could store 74,000 tons of spent fuel that presently exists in the country. He described security as being enhanced, inconspicuous and less visible from the air, and he added that security is easily implemented because there are no areas where a person could hide.

Mr. Heaton spoke about implementation of plans to build an interim storage site, saying that HOLTEC will support its development, partner with the ELEA and institute a licensing process and operation of the facility. The site could be constructed by 2021, he added. With consent from many different entities—cities, counties, the legislature, the governor and the public—what is now needed is political action in motivating the congressional delegation to get this accomplished, Mr. Heaton stressed. Committee members questioned when HOLTEC would

be submitting its licensing package, which will be by year's end, Mr. Heaton said. Concern was also expressed regarding the manner in which the WCS is storing material that will eventually transfer to WIPP.

### **Carlsbad Nuclear Task Force**

Mr. Heaton continued with his own presentation, giving an overview of the Carlsbad Nuclear Task Force. He said that the task force has spent a good deal of time advocating for a budget in Washington, D.C. Proposals amount to \$240 million in the WIPP budget in the U.S. Senate, and \$27 million of this budget goes toward the settlement agreement, which cuts into the WIPP budget. The U.S. House of Representatives budget, though, is at \$293 million, with separate funding for the settlement agreement. He expressed how difficult it is to plan work and move forward when the budget is not settled.

Mr. Heaton reviewed the task force's objectives, which include: supporting WIPP's safe recovery and HOLTEC's efforts in licensing; expanding WIPP's mission; developing and supporting spinoffs of the nuclear industry; and supporting the community assurance program. He said that the task force is composed of about 50 community members who meet two or three times each month and conduct town hall meetings on specific pertinent issues.

Among the new opportunities in the task force's work is a change to the definition of TRU waste, Mr. Heaton said. He said that tank waste is considered high level only because it is the first level of extraction and that the U.S. is the only country that defines waste in this way. He said that this waste is very predictable and the definition needs to be changed so that it is based on levels of fission product concentrations. He also mentioned changes to the WIPP Land Withdrawal Amendment Act and having a subcommittee review permit modifications for the NMED.

Mr. Heaton also spoke about the definition of the amount of waste being amorphous, that the volume of the container the waste is shipped in is currently being measured rather than the waste itself. He ended by advocating strongly for nuclear power as a fundamental and necessary energy source.

Committee members asked several questions and the following points arose:

- how the capacity for WIPP is set by the Land Withdrawal Amendment Act at 175.6 cubic meters, an arbitrary number;
- the constant effort required to keep Congress informed and educated about WIPP and nuclear waste storage and the need for champions there;
- replacing employment in the coal industry with nuclear plant employment;
- adding nuclear energy to the renewable energy portfolio, especially based on new findings that allow for the extraction of uranium from sea water; and
- the importance of the affordability of nuclear energy technology.

Next, the chair asked for the RHMC to consider the July minutes, and the special subcommittee recommended approval of those minutes.

### **URENCO Status Report**

Clint Williamson, vice president of communications and external relations at URENCO, reviewed the company's vision, mission and values, which revolve around meeting the demand for sustainable global energy through nuclear power. He said that URENCO's hands-on approach contributes to the community support that the company still enjoys today. He gave an overview of URENCO's reach around the world, how it distributes its product around the world and the flow of that activity in and out of New Mexico. He went over the nuclear fuel cycle, which shows that each utility is responsible for procuring the mining component (uranium) and for the conversion process. At this point, the material flows to URENCO for enrichment then moves on to fuel fabricators.

Mr. Williamson said that fuel arrives at URENCO in 48-inch-wide cylinders, one per truck, and that these are now arriving most days of the week. He described the enrichment process, which involves heating and pressurization that result in separation of uranium into two isotopes. He spoke of URENCO as supplying the force needed for this separation to happen (measured in separative work units, or SWUs).

Mr. Williamson gave an overview of the company's history and workforce, with its corporate headquarters in Eunice, New Mexico, and its workforce of approximately 280 full-time and 100 contract employees, which he said will remain stable over the following decades. He indicated that in June 2006, URENCO was issued the first construction and operating license of its kind in the U.S. In June 2010, the Nuclear Regulatory Commission authorized URENCO to operate. He spoke of the bipartisan support that exists for the company across the state. He said that URENCO's SWU capacity is currently at 4.8 million.

Engagement with the community has been paramount to URENCO, Mr. Williamson said. This includes conducting public tours, which helps to take the mystery out of what is done at URENCO, he added. The company is also very active with professional associations and seeks a presence in key community events. He added that last year URENCO hosted a volunteer fair so that its employees could learn about where they could volunteer in the community and that URENCO allows every employee to give eight volunteer hours per month. This has amounted to URENCO employees volunteering almost 1,300 hours in 2016. The company also hosts a 9/11 day of service in which employees repair homes of the elderly in the community. As well, URENCO employees have been the largest contributors to the Lea County United Way since 2008. URENCO awards about \$150,000 annually in scholarships to students, offers paid internships to college students and provides summer enrichment programs for elementary schoolchildren, he added.



Committee members asked questions and the following points arose:

- appreciation expressed for URENCO's partnership with the community and its revitalization of Eunice;
- the Eunice Community Foundation's work in getting schoolchildren to visit the legislature; and
- bipartisan support in the legislature for URENCO.

**Adjournment**

There being no further business, the committee adjourned at 4:04 p.m.